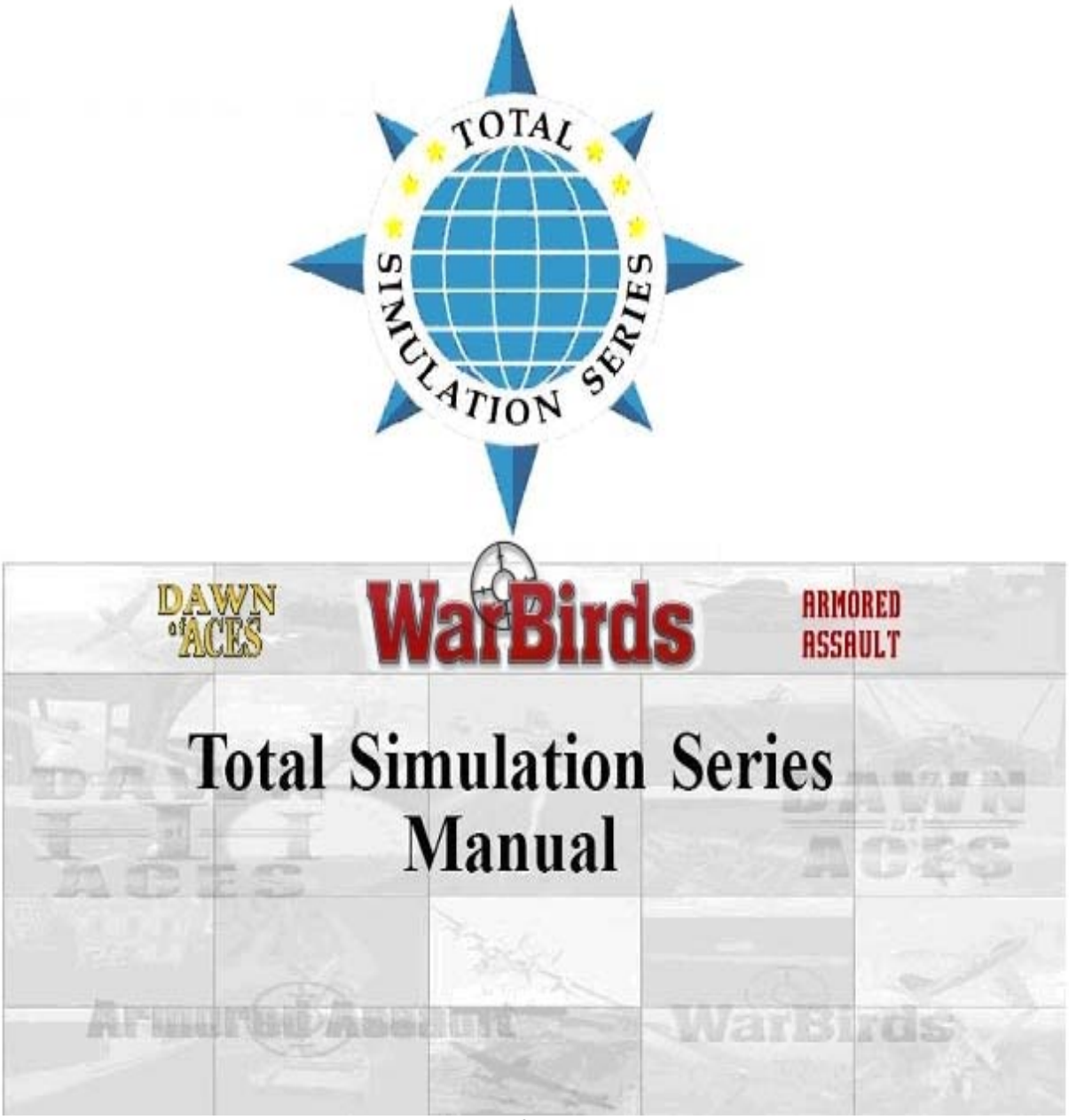


2011 Version

Entertainment Network

Questions or Problems
If you have difficulties with this game and cannot find the solution in this manual, you can also obtain customer service online. We can be reached as follows:

Internet: http://www.totalsims.com
Email: wbtech@ient.com (tech support) or
wbaccounts@ient.com (customer support) or
custsvc@ient.com (customer support)

Your WarBirds account can also be accessed at https://secure.ient.com/am/ (You can change your account, change your password, cancel your account, or restart your old account here!)

Customer Service and access to your online account can be reached by going to www.IENT.com and looking for Customer Service link and click on it.

https://secure.ient.com/am/support_email.php

There is an FAQ at:
http://www.totalsims.com/faq.php
and a support forum at:

http://forum2.totalsims.com/index.php

Telephone: (919-238-4090) and follow the computer instructions.

Contents

GETTING STARTED EASY

Total Simulation Series / WarBirds

Tips from the iEntertainment Network CEO, Wild Bill Stealey

Welcome to WarBirds from JW "Wild Bill" Stealey, CEO iEntertainment Network, Lt. Colonel, USAF Retired!

We are glad to have you join us in one of the World's best PC Flight Simulations, WarBirds! Having produced over 100 flying games, having flown Military Aircraft over 4000 flying hours, and played hundreds of Flight Simulation games, I know how real Computer Simulation can be!

In 1983, my former Partner at MicroProse Software, the brilliant Sid Meier, programmed one of our early MicroProse games, Hellcat Ace, to help me be better at strafing. I was flying the A-37B Dragonfly for the Pennsylvania Air National Guard at Willow Grove NAS, in the 103rd Tactical Air Support Squadron as a Forward Air Controller. Using Hellcat Ace to practice, I was Squadron "Top Gun" in strafing for 6 months. I know Sims can help real Pilots too!

T-37 B DragonFly – Rockets, Bombs, and 7.62 Machine Gun!

The overview below is what I send my friends to get them started fast with WarBirds. There is a lot of specific knowledge in the rest of the manual but if you have a basic understanding of flying and games, you should be able to get flying rather quickly.

It is then likely to take you a long time to become an expert Aviator in WarBirds. WarBirds is a real simulation and real flying, combat planning, and skills are needed to excel.

I would recommend you go to the Training Tab on the main page of WarBirds and practice all your combat flying skills on the missions in Training.

Using these skills in the Instant Action missions is also a good training tool!

Enjoy the Learning and Salute!

==========

This guide describes some things that will make your first efforts to fly a **Total Simulation Series** game easier and more effective.

For a Really Fast Start, Please Click on "**CheckOut**" on the main WarBirds Splash Screen! This will teach you some of the basic controls of flying the WarBirds Aircraft.

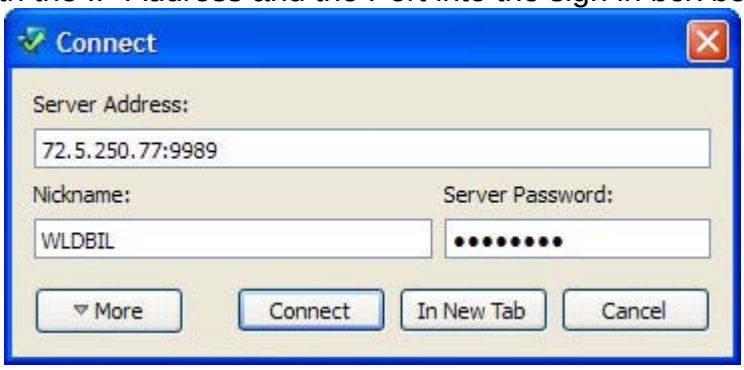
Two other excellent help features of WarBirds are the complete Training Section with multiple missions on the Training Tab on the Splash Page.

Additionally, every Tuesday and Thursday evenings, East Coast USA time, WarBirds Trainers are in the Training Arena. You can request a Trainer Session by emailing wbtrainer@ient.com.

If you go directly online, you will be put into the Special Training Arena, where all players are on the same side, (no live enemies), where you can practice your flying, bombing, strafing, and dogfighting against AI enemies.

1) Check your computer to see if you can run the game. Here is the link to the minimum requirements for both PC and Macs.
    a. http://www.totalsims.com/gs_sys_req_2.php minimum requirements.
        i. I would say that you need at least 128 Meg graphics card and 1GB of Ram, and at least a 1.5 GHz CPU.
        ii. I use a 128 Meg ATI graphics card and it gives really good graphics and frame rates (important to the game.)
        iii. For the PC, you can also go to the start menu and click on run. Put "dxdiag" and press enter. This will tell you everything about your computer in terms of graphics, sound, dx version, and various memory and MHz numbers you need to confirm to play WarBirds.
        iv. For the Mac – Download the Mac version and carefully follow the instructions in the Read Me file. More information about the Mac on our Forums here. http://forum2.totalsims.com/viewforum.php?f=3

2) Get the download of the game. https://secure.ient.com/totalsims/downloads.php
    a. You will need to sign up for a WarBirds Account to get the download. Once you sign up for an account then you will have the option of choosing PC or Mac downloads.
    b. To run the game best you need to turn off all the other programs running in the background of the computer.
3) We recommend a joystick to run the game properly.
    a. I use different joysticks but what is important is that the joystick has rudder control as a "twisty" stick. Rotating the stick with your wrist controls rudder pedals.
    b. Also the stick needs a hat switch. This is a tab on top of the joystick that moves in the 8 primary positions and is used for views in the game while flying.
        i. Some of the joystick manufacturers who have worked with the company are:
            1. CH Products, Logitech, and Saitek
4) Another good thing to download is TeamSpeak 3.
    a. http://www.teamspeak.com/?page=downloads (Again this is an external link not associated with IENT. Follow their instructions.)
    b. Make sure you get the Client version for your computer.
        i. There is both a PC and a Mac version.
    c. You will need a headset with microphone to talk to other players online.
    d. You will have to have logged into a TeamSpeak server (one of the servers run by some of the players or Squadrons or the IENT TeamSpeak server) before this works. The headset will still provide the sound of the game until you log into TeamSpeak.
    e. The IENT TeamSpeak server is located at this IP and Port: Make sure you put both the IP Address and the Port into the sign in box below.



        i. Main Lobby password is "ient2011".
        ii. Pick the arena you are playing in and go to that TeamSpeak Channel.
        iii. Please make sure you are using the option of "push to talk" on the options menu. DO NOT USE "VOICE ACTIVATED"! Leaving TeamSpeak on voice activation lets other players hear you breath. This is Not good! **THIS IS IMPORTANT!**
        iv. Do make sure your mike is working. You can test your mike under Settings/Options in the Teamspeak menus.

v. A very complete discussion of current Teamspeak 3 settings can be found on the forum here: http://forum2.totalsims.com/viewtopic.php?t=10153

5) Getting started.
    a. Close all other programs running on your computer.
    b. If you are using a joystick make sure that it is attached.
    c. Open and sign in to TeamSpeak 3.
    d. Make sure you sign up for an account at http://www.TotalSims.com.
        i. http://www.totalsims.com/account_create.php Signup page.
        ii. Run the Updater from the start menu. Go to the start menu, find IENT Total Sims Series, WarBirds, and "check for updates".
            1. IENT updates the software almost every month so you need to do this often.
            2. The updater should download and update the software automatically.
    e. Launch the game from either the Icon (looks like a small blue airplane) on the desktop or from the Start menu and IENT Total Sims Series.
6) You can play offline to practice flying.
    a. There are training missions.
    b. There are instant action missions.
7) **Navigation** is VERY IMPORTANT! LEARN IT WELL!
    a. One of the things that appears to be hardest for new Pilots is to know where they are!
    b. Use F1 to bring up the map.
    c. The Map needs to be zoomed or unzoomed to get a good picture of where you are.
    d. Use the [or] keys, or mouse wheel, to zoom or unzoom the map.
    e. The head of the white arrow on the map is where you are!
    f. The Arrow points in the direction you are heading.
    g. Practice picking a field and flying to it. IF YOU DON'T DO THIS, YOU WILL BE LOST IN THE GAME!
    h. The Map has a transparent view and a solid view. Press F1 once to get the transparent view. Twice to get the solid view. And again to get rid of the Map.
8) You can click "Go Online".
    a. You will have to enter your login name and your password to "Get Arenas"
    b. You do need to have an IENT account to go online. Get that account here: http://www.TotalSims.com
9) You will have to be ready to choose an online handle.
    a. Callsigns can only be lowercase letters and dashes.
    b. Some examples of Callsigns are:
        i. kirkx-, banshe,–omar-, etc.
        ii. Mine is WLDBIL. I get CAPS because I work for IENT.
    c. This handle will be stuck with you while flying SO BE CAREFUL WHAT YOU CHOOSE!

d. The Instant Action Arena is a good place to start as full radar views (Press F1) of the action are available to the pilot. Some of the "players" are Artificial Intelligence (AI) computer players so you can practice on them.
    i. Use "/" to open the CHAT bar and ask questions of other players.
    ii. Use "shift /" to talk to everyone online at the same time in this arena.
e. Notice the "Help" on the bottom right of the screen. Clicking on this "Help" will open a menu with all the right controls listed there.
f. Clicking on one, like "Landing gear raise/lower", will raise/lower the landing gear and show you the key to use in the future in the Message Area (known as the Buffer) in the bottom left of the screen where you see all the text conversations going on between players. You should see "Key G" written in this buffer then you click on Landing gear raise/lower in the help menu.

10) Make sure you have the "Auto Takeoff" icon clicked on the main online page. This will allow the airplane to take off by itself when you click on Fly to start the game and you will not have to use the rudder to keep it on the runway. (Old Radial engine airplanes have some real torque in the engine, plus the gyroscopic effect, plus the slipstream of the prop hitting the rudder that makes it a challenge to keep the aircraft straight on the runway. You will eventually want to learn how to use the rudder to keep the aircraft straight on the Takeoff run!)
11) Practice flying and use the F1 key (opens and closes the Map, use the [and] keys to zoom and unzoom the map) to find the enemy. They are the small dots on the map in the lighter colors. The fuller colors are the other human players.
12) We have real players who will train new players online on many nights in the training arena if you want real training. If you enter the **Training Arena,** a splash screen will give you the latest information about training availability
13) Frequency Asked Questions. http://www.totalsims.com/faq.php

OK You should be ready to fly!

Look for experienced players to fly with. Flying with a Wingman is the best way to learn the WarBirds simulation.

Also find someone who has a Squadron Name after his name in the Buffer. The =4th= FG (4th Fighter Group) is just one of the great Squadrons in WarBirds. Here is a link to our Squadron Page. http://www.virtualfourthfightergroup.com/

Squadrons usually have their own TeamSpeak server (in addition to the IENT TeamSpeak Servers) set up for their Squadron communications. They can also help you learn the game much better!

Happy Hunting!
Wild Bill Stealey
CEO iEntertainment Network
Lt. Colonel, USAF Retired

Download & Installation

PC System Requirements

- Intel or AMD, 1 GHz, 1.4GHz recommended.
- Windows 2000 or higher
- 512MB RAM minimum, 1024MB recommended for best play.
- 56 K or faster connection to the Internet.
- DirectX 9.0.
- Mouse and keyboard required. (Joystick recommended for basic flying with twist stick for rudder). Additionally external throttle and rudder pedals are recommended for advanced play. Several manufacturers make models of their flight control systems for the PC.
- 128MB DirectX 9.0 compatible video card or better with transform and lighting/Shader 3 compatible for the new Enhanced Graphics Version of WarBirds.

Macintosh System Requirements

- Operating System: Mac OS X 10.4 (Tiger)
- CPU Processor: Power PC G4, G5, or Intel Chipset
- CPU Speed: 1.0 GHz
- System Memory:256 MB
- Hard Disk Space: 1.5 GB of free space
- Video Card (ATI): Radeon 9800 or Equivalent
- Video Memory (VRam): 128 MB minimum/More better
- Mouse and keyboard required. (Joystick recommended for basic flying with twist stick for rudder). Additionally external throttle and rudder pedals are recommended for advanced play.
- Not all joysticks are running flawlessly on the Mac see discussion: http://forum.totalsims.com/viewtopic.php?t=297

Downloading & Installing

Before installing WarBirds, close all other applications that are running.
If you have trouble downloading, there is a CD with all the WarBirds files for only $19.99 (at time of writing), which can be ordered from the Stores page at https://secure.ient.com/totalsims/store.php

1. Download the simulation from our WarBirds Web site: https://secure.ient.com/totalsims/downloads.php
2. For the PC either the Full Download from any of the links on the page.
3. The Full Install is an over 800 Meg download. If you have a high-speed connection, this download should take approximately 30 minutes.

   If you have a dial up connection, you might want to start the connection overnight and let it run. It may take many hours for the download.

   The installer will first ask you for a temporary folder to put unpack the installation files into. It will next use these files to install the game. After the game has been fully installed you can safely delete this temporary folder.

   After the Full Install is loaded, it will run the WarBirds Updater to make sure that the software you have has the latest updates.

4. **Mac Only:**
   a. Download the Mac version of the game from the downloads page.
   b. Carefully read the Read Me file. There are specific instructions for each Mac operating system.
   c. More MAC centric info here on the IENT Forum. http://forum2.totalsims.com/viewforum.php?f=3&sid=a73822e8278a5ffeca692dd467bbcd44

5. Launch WarBirds by double-clicking on the WarBirds application, which is located in the WarBirds folder.

DirectX 9.0 and Higher

Many games and other Windows programs use DirectX, a standardized set of tools, which allow programs to communicate with and control your system's hardware. DirectX-based programs use DirectX 'drivers' to perform many functions, such as painting graphics to the screen or having your sound card play sound effects.

With new technology constantly being introduced (such as next generation 3D Accelerators), DirectX is updated to support these new technologies, and the hardware manufacturers release new 'drivers' for use with the most recent version of DirectX.

We advise that players download and install DirectX 9.0c from Microsoft at: http://www.gamesforwindows.com/en-US/directx/

Latest Drivers

We recommend that you download and install the latest drivers for your hardware. This includes your Joystick, Sound card and Video card.

Updated drivers can be obtained from each manufacturer's Web site.

Recommended Video Card Manufacturers

Connect to the Internet, and then click on a link below to go to that manufacturer's Web site.

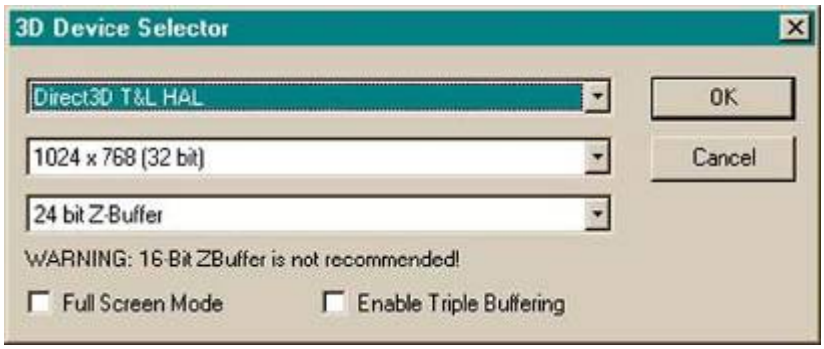
- ATI: http://www.ati.com/
- NVIDIA: http://www.nvidia.com/

Preflight Selections

Close all other applications, toolbars, and animated cursors. (Use End it All or some similar tool.)
PC Users: Launch WarBirds from either the Icon on the Desktop (a small blue airplane) or from the Windows desktop, or select the 'Start' Menu, then 'All Programs', then 'iENT Total Sims Series', then 'WarBirds 2012', and then 'Run WarBirds 2012'.
Mac Users: Launch WarBirds for the Macintosh by double-clicking on the WarBirds application.
For both PC and Mac, it is a good idea to periodically to run the WarBirds Updater to insure that you have the most current version of the game.
Sometimes the game will not let you enter the game until you update. This is a Mandatory Update that everyone must have to play.

3D Device Selection

When you launch WarBirds the first time, you will see the Windows Display Settings box. You will not have to set this again but can change your settings inside the game. Below is what my Windows Display settings looks like.

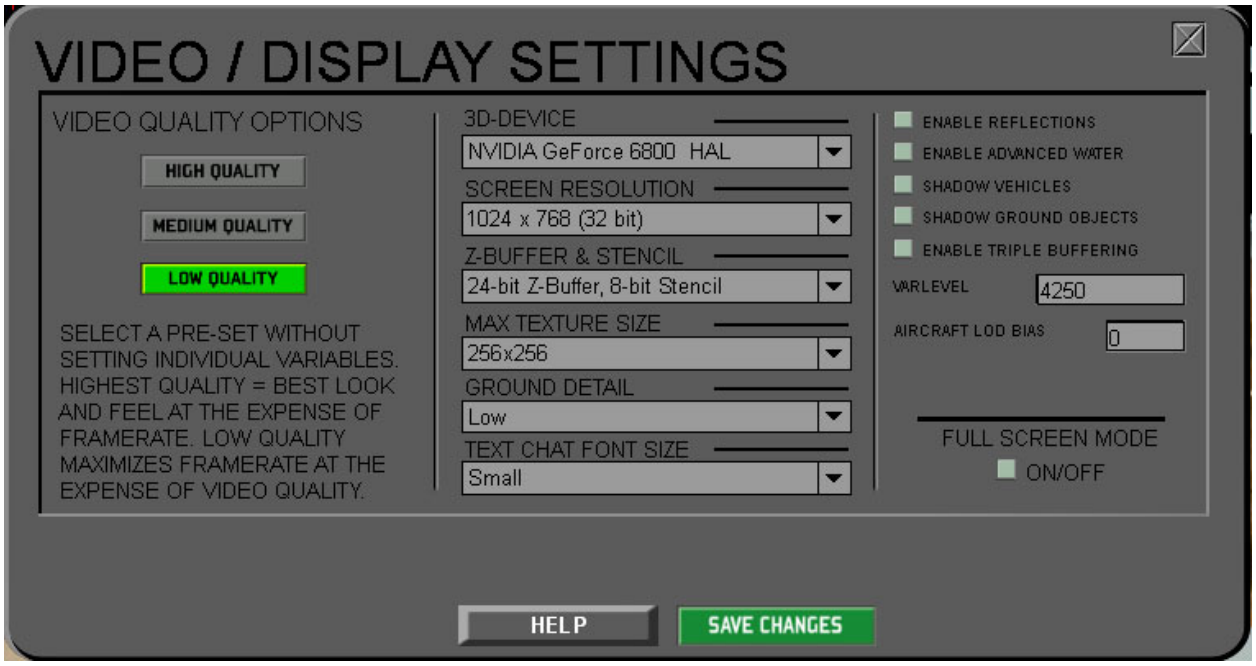


3D Device Selector Window

1 Select an option from the drop-down menu. If you see T&L HAL use it. It means transform and lighting (T&L) calculations are done by the 3D hardware. This is a good thing since it frees up CPU cycles.
2 Select a resolution; this must be the same or less than your Windows desktop setting. 32 bits is recommended, 16 may cause polygon flashing or tearing.
3 Select one of the Z-Buffer options. Set this to the highest you can, but be aware that some hardware (NVIDIA) needs to have this match the bit depth you select for resolution.
4 Select Full screen mode to have the WarBirds window take up the whole of the screen.
5 Click the box to enable triple buffering, if required. Triple Buffering improves the smoothness of the graphics, but it can be system intensive. You may find your frame rate drops when it is selected. Click Okay.
6 Inside the game, you can go to the Video Settings Screen from the Settings button

on the bottom of the Tower/Main screen. Here you can change the settings you choose above.

7 Note the right side of the screen has the same choices as the 3D Video Selection screen above. This Screen is available from the Settings button on the bottom of every screen when inside the WarBirds game.



Main Menu

Choose to “Play Online” (requires an account) or to play one of the Offline games including Instant Action, Training, or Free Flight. (Offline games do not require an account.)
You will begin on the page below**.**

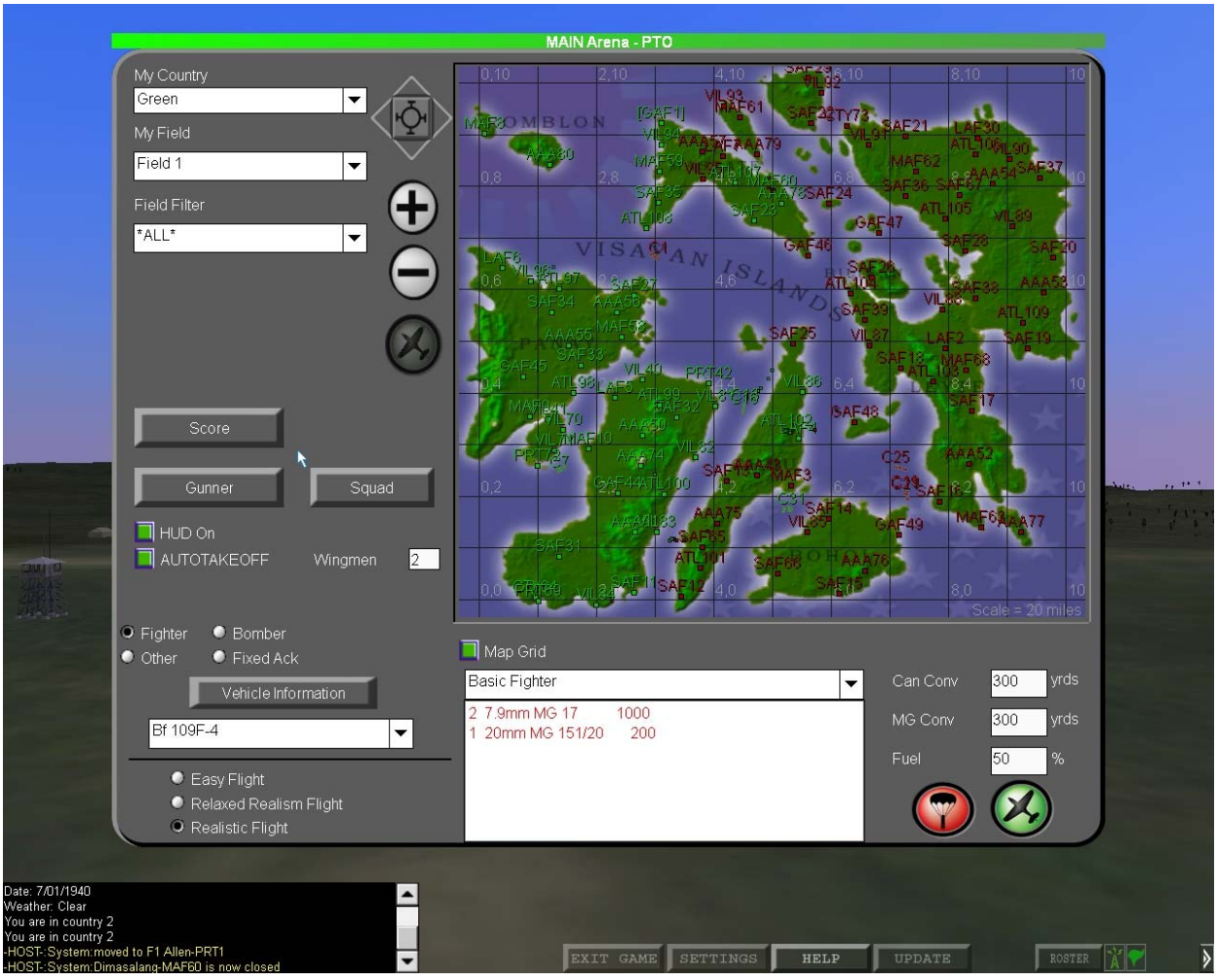
The buttons on the side of the ‘Main Menu’ are:

1) Help - Brings up a window to learn more about the simulation.
2) Training - Over 15 training missions to learn to Takeoff, Land, etc.
3) Instant Action - 11 Fast Missions to Practice WarBirds flying offline.
4) Free Flight - Fly Offline with no Enemies in any of 9 different Arena Maps
5) Play Online - Play with other Real Players On the Internet. Dangerous Place!
6) Mission Editor - Make your own Custom Missions with the Mission Editor.
7) Settings - Set up controls and game options.
8) ACMCAM player - playback any pre-recorded in-game movies.
9) Credits - Exit the rolling credits screen by pressing **Esc** or clicking.
10) Exit Game – Returns you back to the desktop

Below in Flight and Offline Setup, we will provide more information on these options.

Tower Screen

The Tower (simulating being in the control tower) screen is displayed with the Main menu on the left and the terrain map on the top right. This is where all play starts in WarBirds. You see this screen both offline and online.
PLEASE NOTE THE BUFFER! This is the area in the bottom left of the screen where you get information on what is happening in the game. Here other players can chat with you, here you see information from the computer, and here, most importantly you see who gets killed by whom and if you get any kills yourself.



Offline, you could choose among the six options including 1) invulnerable, 2) Unlimited Ammo, 3) Blackouts and Redouts, 4) Structural airspeed limits, 5) Cockpit on, 6) Hud on, Number of wingmen, and Game Setup to choose among the various offline games. Both ONLINE and OFFLINE you can choose AutoTakeoff to have the computer get you airborne. These options are in the middle of the left side of the Tower Screen.

There are a lot of other things that may be set on this page.

Note the drop down menus on the top left of the screen. (These drop down menus (indicated by the black triangle sometimes seem to be sticky and not give you all the options. Click on the Black Triangle, hold the button down and drag the button up and down to expose the entire menu of options.)

1) **My Country**. WarBirds is played by sides with assigned colors. There are four colors. Red, Green, Gold, and Purple, Sides 1, 2, 3, 4. You have to pick a side to be on by opening the drop down menu and picking a side. Generally you can see which side is Axis and which is Allied. Most WarBirds Players like to know if they are on the Allied or Axis side.
2) **My Field.** This allows the player to choose which field he wants to take off from. You can also click on a field on the **Map** to choose the field. When you click on a field, and it is your color, then you will move to that field. If it is another sides color, it will not let you move there. Most missions are planned by choosing a field to get the Squadron off from. Please note the Grid marks on the **MAP. Many players identify where they are by using these grid coordinates. There are numbers on the bottom left of each Grid Square, like 5,4. Inside one of these Grid Squares, the players use the layout of the Num Pad, 1-9, to show the location inside a grid square.**
3) **Field Filter**. Provides you with the opportunity to sort the **MAP** however you want too.
4) **Terrain**. Only Offline can you change terrains you are practicing on. Online the Terrains are rotated on a Two Week basis.
5) **Starting Altitude**. This can only be set for Offline Play. This allows you to practice flying starting at altitude.

To the right of the **My Country**, there is an icon that can move the map in various directions.
Below that icon is the **+ and –** that allows zooming in and zooming out on the map.
Below the + and – is an **airplane Icon**. Click on this and the field you are located on, will display the runway diagram and allow the player to click on the **various spawn points** shown on the runway diagram as (sp1), (sp2), etc.
Now move to the bottom left of this screen.
Here you will see three clickable dots with **Fighter, Bomber, Fixed Ack and Other** next to them.
Once you have chosen the type of vehicle you want to control, the dropdown menu below these choices will have a list of available vehicles. Open the dropdown carrot and choose among the various vehicles. There are over 72 different aircraft and 10 ground vehicles to choose from.
The **Preview Button** lets you see the vehicle you chose.
To the right of the preview, you will see the description of the vehicle you have chosen.

Open the dropdown to arm your craft with bombs, rockets, guns, drop tanks, etc.

Set the fuel and gun convergence to the right of the description box. Make sure you press enter (or click elsewhere on the splash screen) after changing fuel or it will not be implemented.

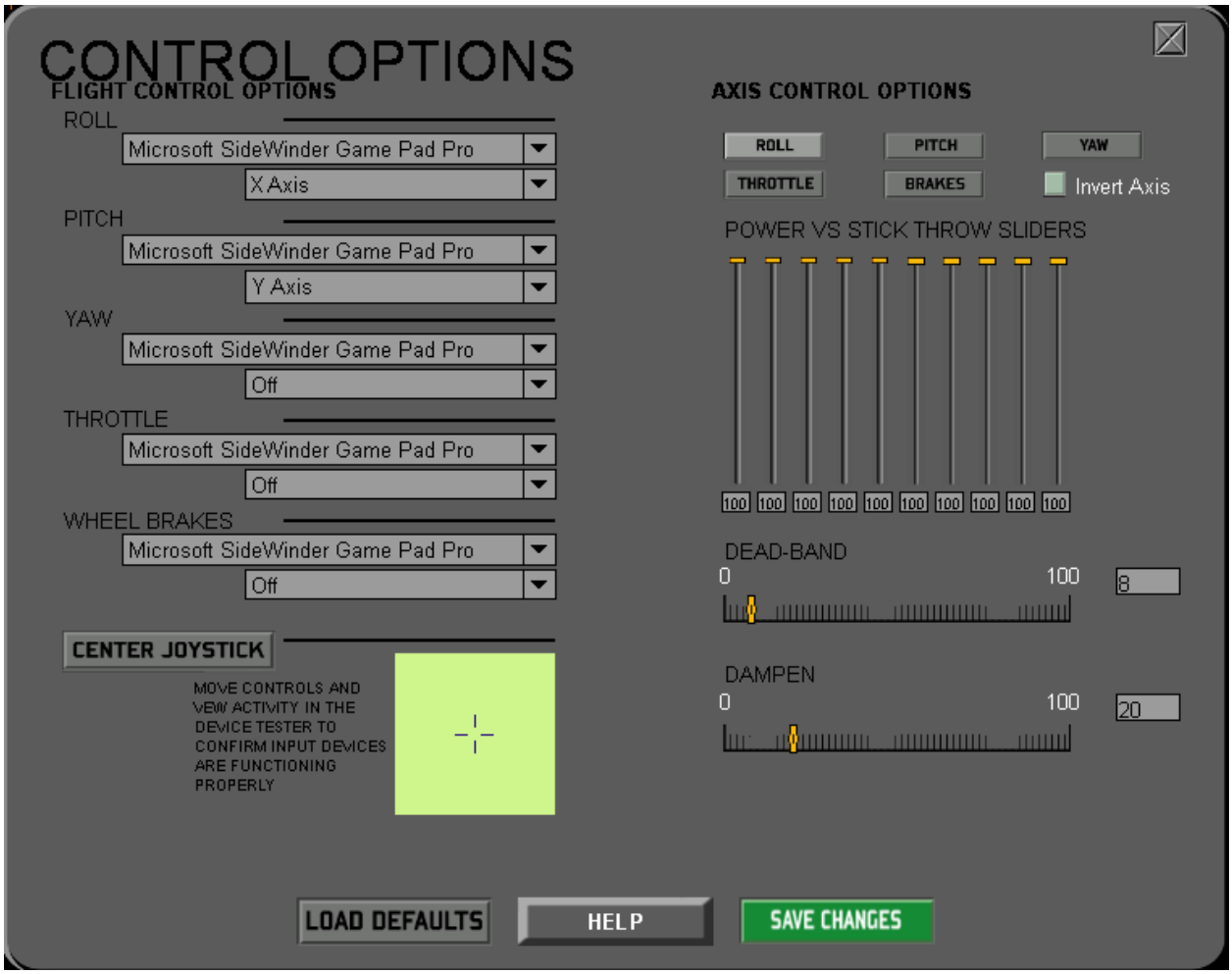
Setting Up your Game Controllers

WarBirds automatically configures your Game Controllers, so most players do not need to do anything.

Joystick

However, sometimes, you have to set up your own controllers and you have to open the Joystick Setting screen from the Settings Button.

One way to try is to pick DEFAULTS on the bottom of the page above – though often the player has to set the "Axis" (top right in the screen above) to the right Controller function.



For example note above that the "CH CombatStick USB, (the top entry in the center top of the screen above) and equal to the "Roll" line, is set to the X Axis.

This setting inputs bank (left and right) to the online aircraft.
All the other axis must be set also. Note the Axis associated with pitch, roll, and yaw. (**Note:** these are mere examples. Many Joysticks have their own control programs. If you use CH-Control Manager all three devices show up as "Control Manager Device 1" and not individually)

Sometimes it takes trial and error to set the Axes correctly.

A good starting point is to set the roll sliders all to 100 (from 0 on the left to 90 on the right). Set the yaw and pitch sliders at values from left to right at 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, set all the Dead-bands to zero and all Dampers to zero.
The easy way to accomplish this testing is to use Instant Action offline games on the main screen (I use Bomber Attack), launch the game, press X (to set Auto Trim on level flight), and then try the joystick. At each axis make sure the joystick does what you expect.

If it does not, press X again (Auto Trim on Level) and change the controller or the axis in the SETTING/Joystick Settings button on the bottom of the Flying View Screen to change the controller axis.

Below is a discussion and some links to an alternative way to use the CH products controllers. Thanks to Horst Weiderman, WizKid, for this detail.

CH Control Manager
Short thread about the basics of CH Control Manager 4.0 in the CH-Hangar Forum
http://www.ch-hangar.com/forum/index.php?showtopic=731
Download of Control Manager "Tutorial for Dummies", nice Handbook in form of a cartoon introduction
http://www.ch-hangar.com/forum/index.php?showtopic=2107
Download the CH-Control Manager 4.0 itself here:
ftp://ftp.chproducts.com/pub/CHCMv40.exe

That is the Control Panel of the CH-Control Manager

That is the way the results of the Control Manager show in the WarBirds Joystick Setup, when the
CH-Equipment is bound into one coordinated device “CH Control Manager Device 1”:

Centering the Joystick, Rudder and Throttle

1 The box in the bottom left-hand corner represents the limits of the joystick’s movements along the vertical and horizontal axes, with the cross showing the position of the joystick. Move the stick to the limit of its movement in all directions a couple of times, and then click Center Joystick. Repeat if necessary.
2 The red line at the top of the box shows the position of the rudder. If you have a “twisty” joystick, twist the joystick to its full extent in each direction a couple of times, and then click Center Joystick.
3 The bar on the right of the box represents the throttle position (assuming you have one). Move the throttle control to maximum and minimum a couple of times, and then select Center Joystick. If you have rudder pedals, move them as far as possible in each direction, and the click Center Joystick.

NOTE: Whenever you t**akeoff** in WarBirds, release all controls and then press **F12 to center the joystick** and ensure precise control before releasing the brakes.

Mouse

ALT M: Toggles Mouse Control

When controlling the aircraft or vehicle with the mouse:

Left Mouse Button: Fires the primary weapon.

Right Mouse Button: Levels the aircraft (trim). In flight, do this before using the mouse to click on menu items at the bottom of the screen.

The above mouse button functionality can be reversed from the mouse settings dialog. To display this dialog first click on the settings button at the bottom of the screen, and then select Mouse Settings.

Mouse wheel: If you have a mouse wheel it will control the throttle. When the map is active the mouse wheel zooms it in and out.

Mouse sensitivity: To adjust the mouse sensitivity, use the dampen control on the Mouse Settings dialog.

Mouse Dead Band: This applies to gunnery positions only and if non-zero small movements around the mouse center position do not cause any motion. A larger value means you have to move the mouse further before the gun begins to move.

Invert Mouse: In the Mouse Settings dialog described above there is a button near the top left corner that's labeled 'Invert Axis' – click it (it'll turn dark green) to invert the mouse.

Mouse Wheel Always Throttle: Select this mouse settings option to let the mouse wheel control the throttle even when the in-game map is being displayed.

Mouse Control Box Display: Click to turn off display of the Red Mouse Control Box when flying.

When using a Joystick to control the aircraft or vehicle:

Left Mouse Button: Tunes Radio 1 to player.

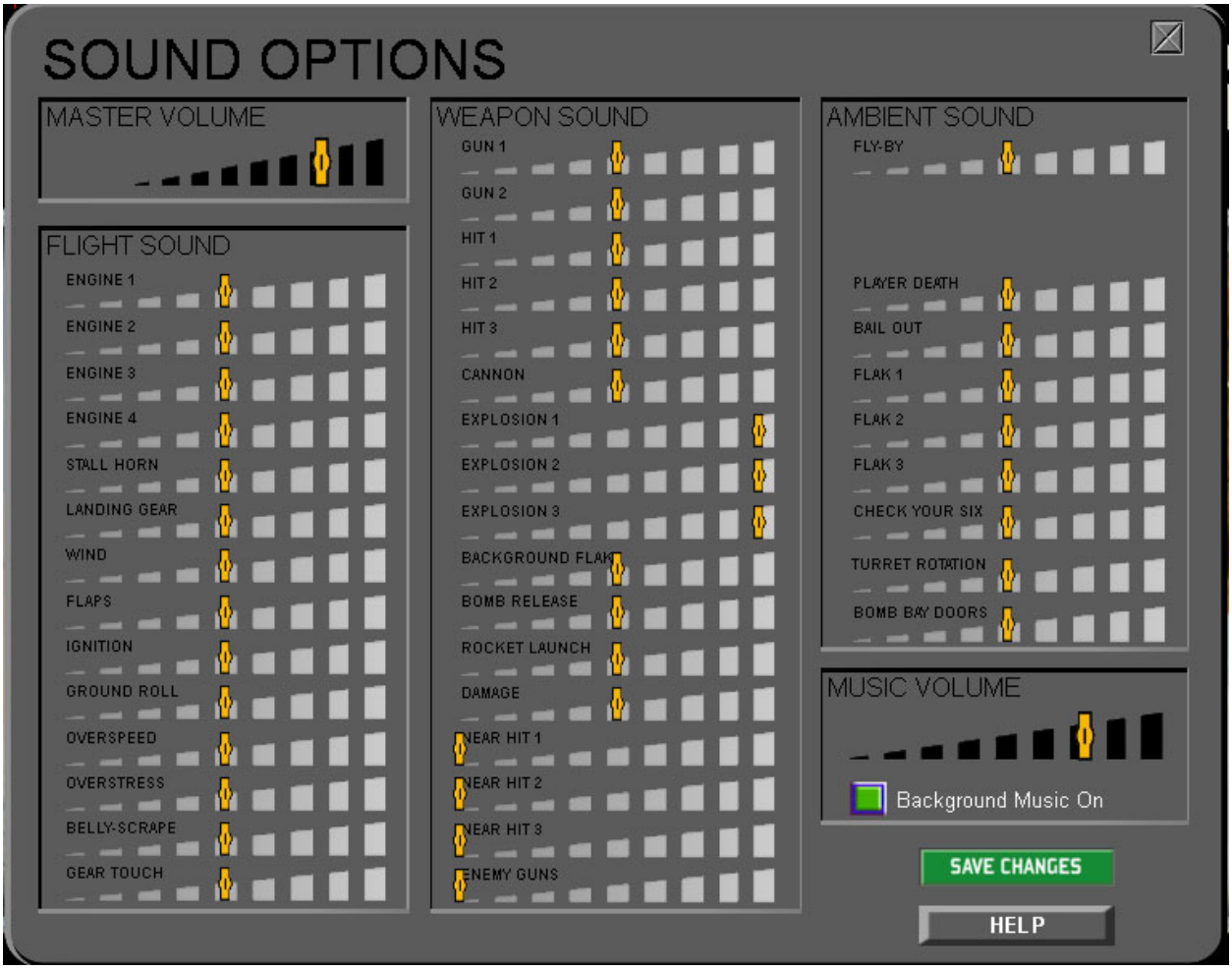
Right Mouse Button: Calls Six for player.

Mouse wheel: If you have a mouse wheel it will control the throttle. When the map is active the mouse wheel zooms it in and out.

Sound Settings

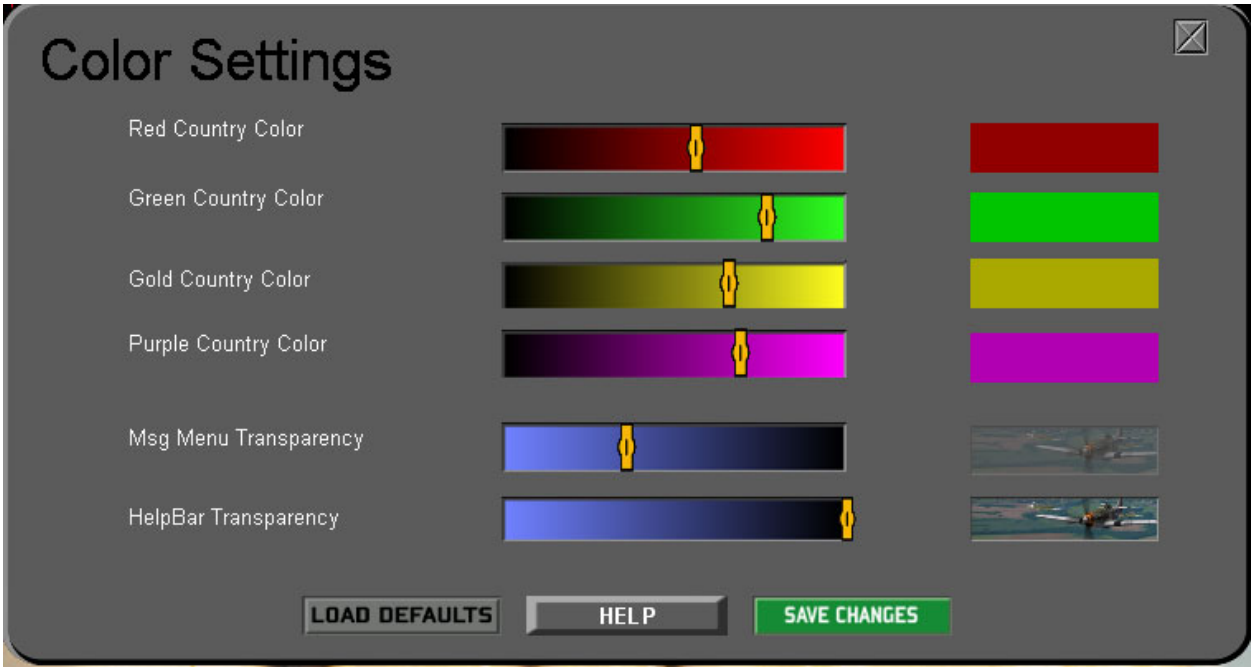
To adjust the Sound levels, select Settings from the Main menu, and then the Sound Settings tab.

Move a slider to the right to increase the volume and to the left to decrease.
Note: whenever you are using TeamSpeak make sure your Master Volume is set to a comfortable level (low) otherwise you will have problems hearing the communications over the engine noise.



Color Settings

To adjust the Color levels, select Setup from the Main menu, and then the Color Settings Tab.

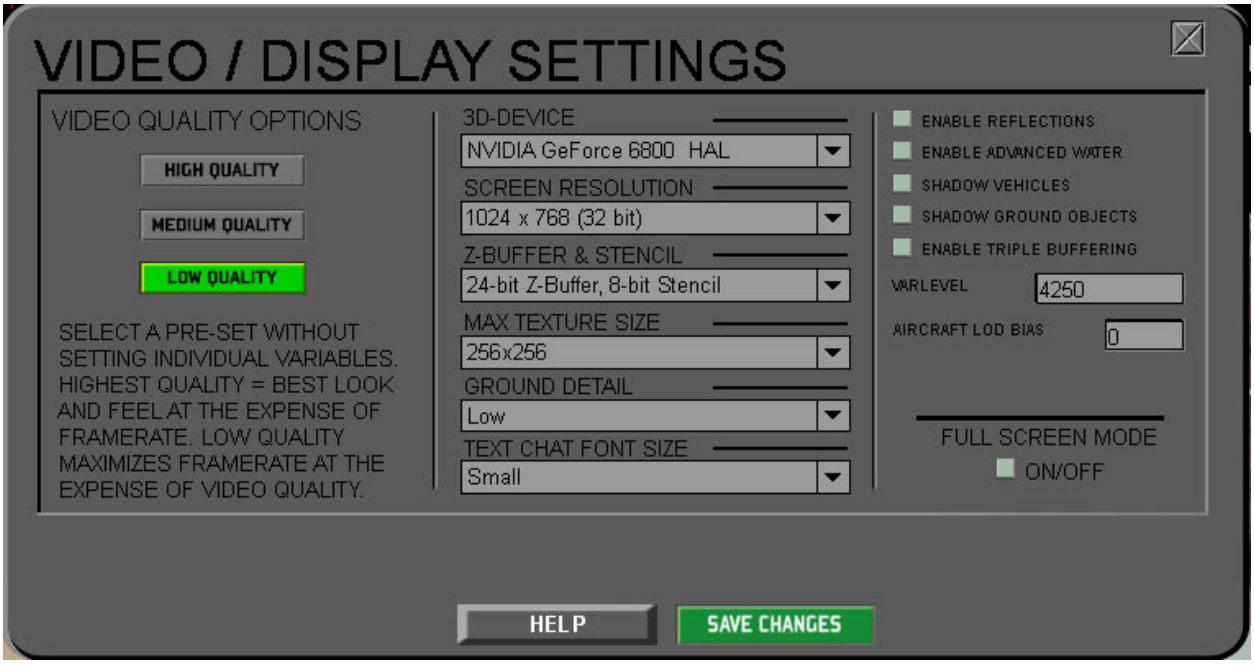


Use the color sliders to change the shade of the icons displayed while flying. The message box transparency can also be changed by moving the Msg Box Transparency slider.

Video Settings

Generally, the video settings affect how WarBirds looks when you are flying. Upping a setting improves the look, but it also tends to decrease the number of frames per second (fps) your computer can process. For further information about changes you can make to improve your frames per second (fps).

To adjust the Video levels, select Settings from the Main menu, and then the Video Settings tab.



1 Set the Preset. If you have a really hot video card, you may want to try High Quality here. You may have to lower this setting as you fly and check your framerate. (By using a dot command (open your radio bar with a / and type ".framemode 1" or ".framemode 2" to have your frame rate displayed while flying.)
2 Set the Var Level between 250 to 50,000. Higher numbers look better, but may lower frame rate. Recommended is a number between 8000 and 12000.
3 Set the Aircraft LOD Bias, the highest Level of Detail (LOD) on the aircraft is active. Higher may lower frame rate. Recommend 9000 as medium number.
4 Select the amount of detail seen on the ground objects. More slows the system down, but the objects on the ground are more detailed and prettier.
5 Radio Font Size determines how the Radio and the Chat areas on the bottom left of the flying screen (THE BUFFER) are seen by the player. It is important to read these messages. Players call this message area the "text buffer". Players may chat by typing with each other using the buffer.
6 Max Texture Size. Limiting the Texture size can increase frame rate.
7 Turning off Environmental Maps removes the metallic reflection effects on some aircraft

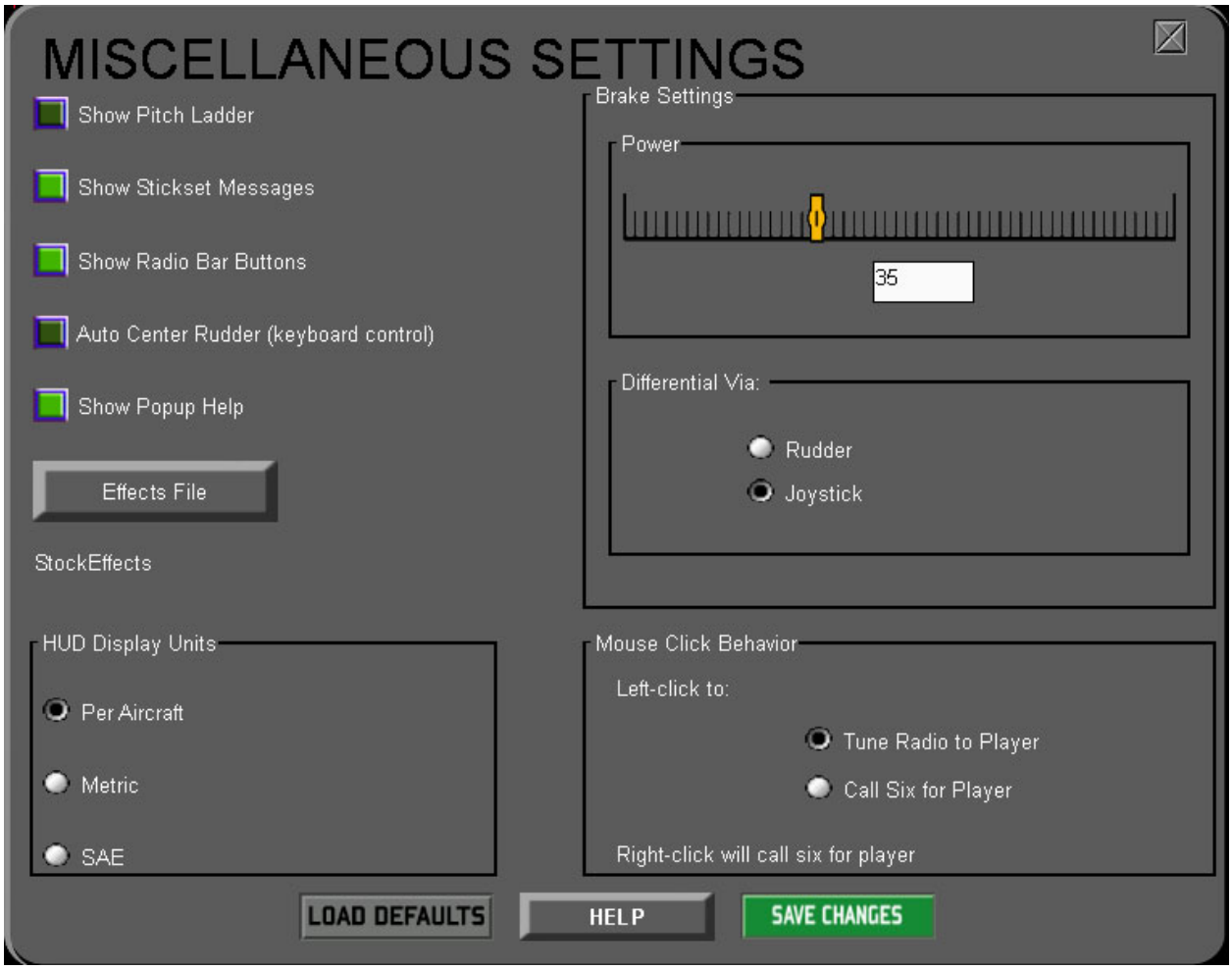
(P-51D for example). May improve frame rate on some systems if turned off.

8 The remaining five buttons should be experimented with to see how these options function on your computer and your specific system.

9 Full Screen is the best way to play WarBirds in most players' opinion.

Miscellaneous Settings

From the Tower/Main Screen click on Settings button on the bottom middle of the screen. In the setting menu click on Miscellaneous Settings. You will get this screen.



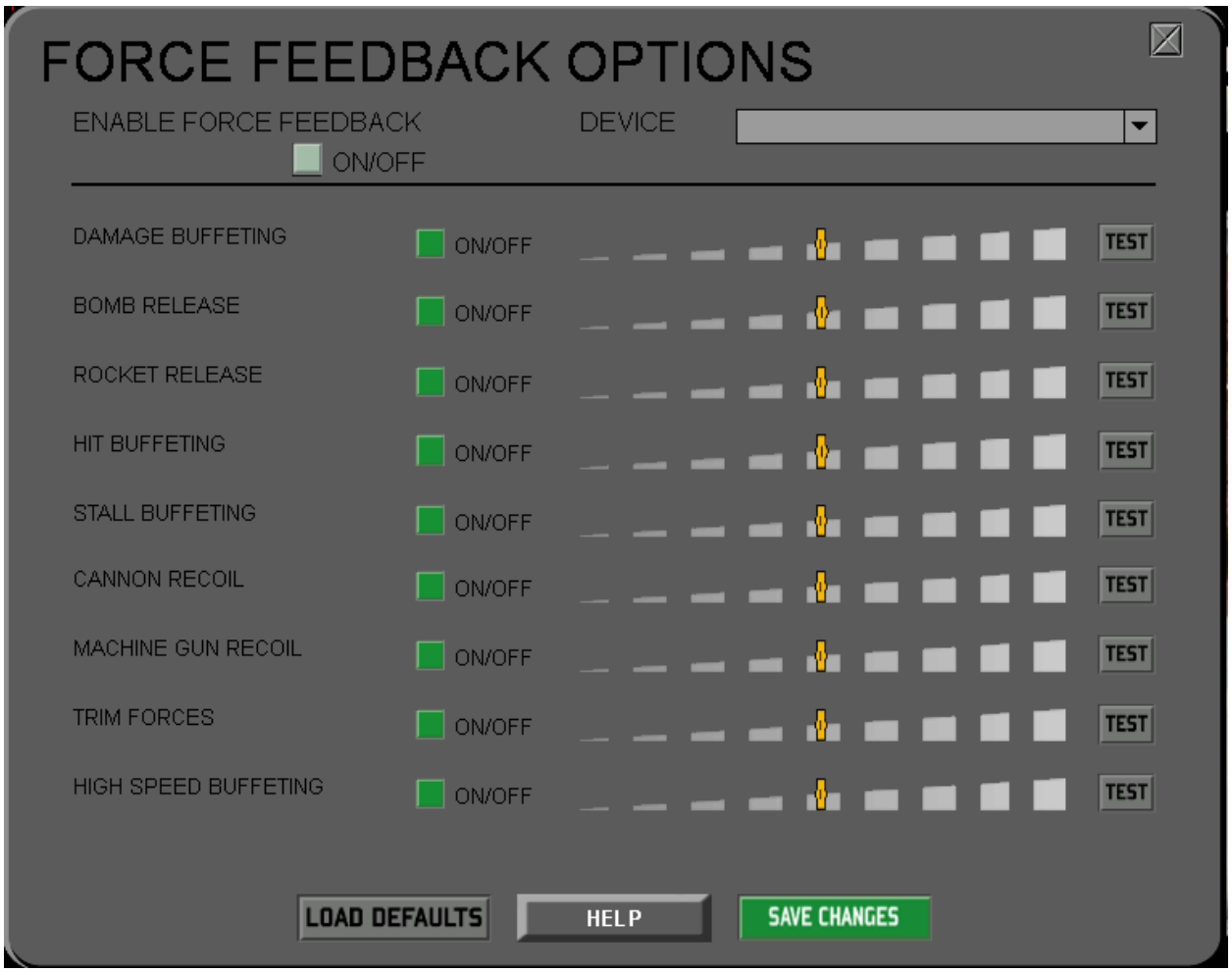
Notice the Effects File. This is where you can decide to use the minimum Stock Effects or go for the Fancy (and graphically intensive Helix_MoreFXTracerRX). You should experiment with the level of effects that your computer can support.

There are a number of other settings to choose from on this screen.
Note the bottom right corner where I have chosen the Mouse click to "**Call Six for Player**". This is how other players can be warned if someone is about to shoot them down!
In the top left are some other choices. One of the most important to me is the "Show Stickset Messages".
With this setting, when you click on a command, like "Auto Trim on Level", pressing "X", then you will see the words in the buffer "Autotrim on Level". This way you know that the computer acknowledged your command.

Force Feedback Settings

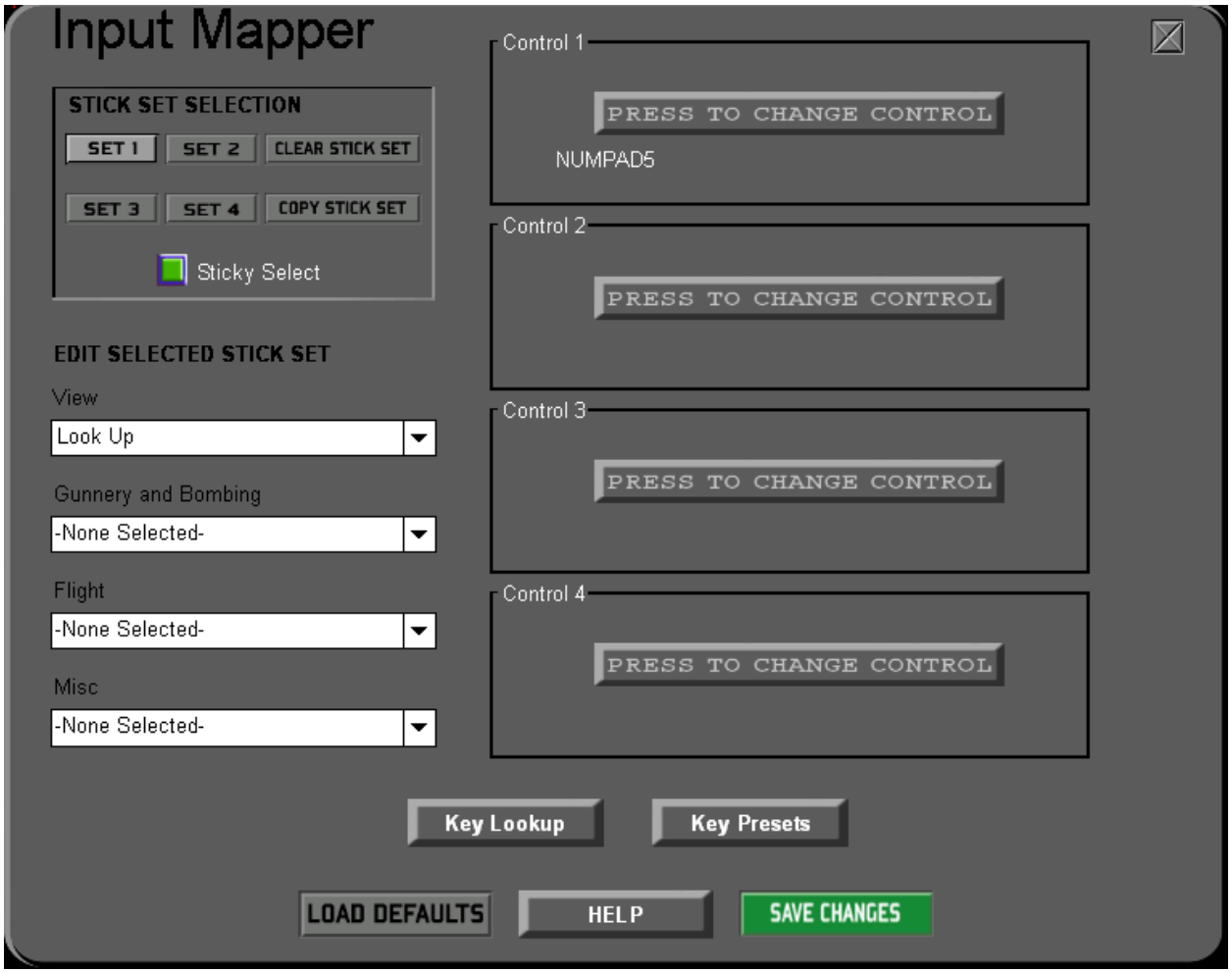
There is also a Force Feedback screen where you can set the effects you want transmitted to your joystick. While these settings may be fun for some, most players do not use them as they can greatly effect your ability to shoot other players when you are on their Six.

Note: Most of the 'Force Feedback players use only the last two, Trim Forces and Hi Speed Buffeting sliders in middle positions, in order to increase the stiffness of the stick, they leave all the others at zero (to the left) or switched off, buttons unchecked



Customizing the Input Mapper

WarBirds allows you to customize which commands are sent by each key on the keyboard, and button or hat on your joystick. To customize your Input Mapper, select Settings from the Main menu, and then the Input Mapper tab.



Some players never visit this screen. They miss out on lots of fun ways to customize their keyboards or input devices.
Using a 6-button controller, I set the following buttons:

1) Fire Secondary Weapons.
2) Look up
3) War Emergency Power (WEP)
4) Zoom in
5) Zoom out
6) Toggle Map

To set all of these the same process is utilized.
For Example, let's set "Look up" on the joystick.

1) Open the Input Mapper Screen from the Settings Menu.
2) Choose the button on the joystick that you want to put the “Look Up” on.
3) Click on “Key Lookup”
4) Press the controller key that you decided upon.
5) You should get the message returned that this “Button has not been assigned”
6) If you get one that “Assigned to ……”
    a. Then it will ask you if you want to Clear this button.
    b. Say yes if you want too or choose another button to assign “Look UP” to.
    c. Confirm the clear to continue.
7) Assuming the Button has not been assigned, go to the menus on the top left of the page and choose among:
    a. View
    b. Gunnery
    c. Flight
    d. Misc.
8) Find “Look UP” in the View Menu.
9) Make sure when you click on that command you want, that the command stays in the open box.
10) Under “View” where it says “-None Selected-“, it should now say “Look UP”. See the screen above.
11) Then click on the button to the right of the View button that says “Press to change control”.
12) Then press the controller button you want to make the “Look Up”.
13) That button should now be set on your controller.
14) You can reprogram any WarBirds command in this manner.
15) **Note:** You can always check your programmed settings for the various buttons of your stick by using the Key Lookup button on the Input Mapper splash screen. Click Key Lookup – then press the desired key and voilá it shows the action programmed to the respective button.

FLYING BASICS

Takeoffs

These instructions assume that you are flying using the Realistic flight mode and not the AUTOTAKEOFF FUNCTION.

Click on Fly from the Main Menu

You are seated in the cockpit on the runway of the airfield at the pre-selected spawn point. Release all controls and press **F12** to center your joystick (this is very important).

Ensure that the throttle setting is on zero, and then press **E** to start your engine(s).

Use **+** or -, or a throttle control to rev up the engine to about 25 percent of its full power. Using the rudder make your way to the end of the runway, if you are not already there, and start rolling straight down the runway.

If the aircraft starts yawing (veering to one side or the other), press **A on the keyboard** to steer left, or **D** to steer right (do not hold the keys down).

If you have rudder pedals or a twisty joystick, use them or that instead.

If you have problems seeing over the nose of the aircraft, **PRESS U to look out the side of the cockpit!**

Increase engine power to full by pressing **+ continuously** or by moving the throttle control as high as it can go. You will notice that with increasing speed the nose of the aircraft will come level, the tail comes up, you will see better where you are going.

When the airspeed indicator shows 100 mph or more, ease back on the joystick to lift off. Once airborne, press **G** to raise the landing gear, and then "Shift **X"** to trim the control surfaces and climb on your set climb speed.

Move the joystick as gently as possible until you have gained some airspeed and altitude, to avoid crashing into the ground.

Center the rudder by pressing **S on the keyboard (or use your twisty joystick or rudder pedals)**, and when heading in the right direction and at the preferred altitude

For Level Flight, press **X** to engage the Autotrim, which keeps the plane flying straight and level.

Autopilot Settings

Autotrim mode: Press **X** to engage the autopilot. The plane flies straight and level until **X** is pressed again or until you take over the controls once more.

Speed mode: Press **Shift** + **X** to put the autopilot in speed mode. The autopilot attempts to maintain the speed of the plane, by climbing or descending, as necessary.

You can set the speed that the aircraft tries to hold by using a Dot command. Open the radio bar with a "/" and then type ".speed xxx" where the xxx is the speed you want to hold.

Angle mode: Press **Ctrl** + **X** to instruct the autopilot to maintain the climb or descent angle of the plane at the moment it was engaged. If necessary, the plane descends to gain the speed to maintain an angle of ascent. Be careful if your plane is descending when you engage Angle mode, or you could crash.

Views

3D Cockpits
Use the View system to look around and keep your situational awareness (SA) high. There are three view modes to toggle between in the 3D cockpits. **Shift** + **O** jumps between the different view systems.

1. Snap
2. Pan to Snap
3. G-Force

Snap View: The default view is the Snap view. This is when you press a key, or move the joystick hat and the view "snaps" to that position. When you release the key, or joystick hat, the view returns to the front. This is the way most WarBirds pilots play and is recommended.
Pan to Snap View: Pan to Snap is when pressing a key or joystick hat the view pans around and stops at the view position. For example, pressing **2** on the numpad pans the view from the front to the side and then to the rear.

G-Force View: G-Force view is as Pan to Snap, but the speed at which the view changes is limited by the number of Gs being exerted on the aircraft at the time.

Stickysnap: In addition, the views can be set to "stick". When "stickysnap" is enabled, pressing a key or moving the joystick hat changes the view to that position and it stays there until another key is pressed, or the hat moved.

To set use a Dot Command. Open the radio bar by press "/" .Type **.stickysnap** in the radio bar to enable it and **.returnsnap** to return to the default.

Changing Field of View

To zoom out (make field of view bigger), press **V**, to zoom in (make field of view smaller), press **Z**.

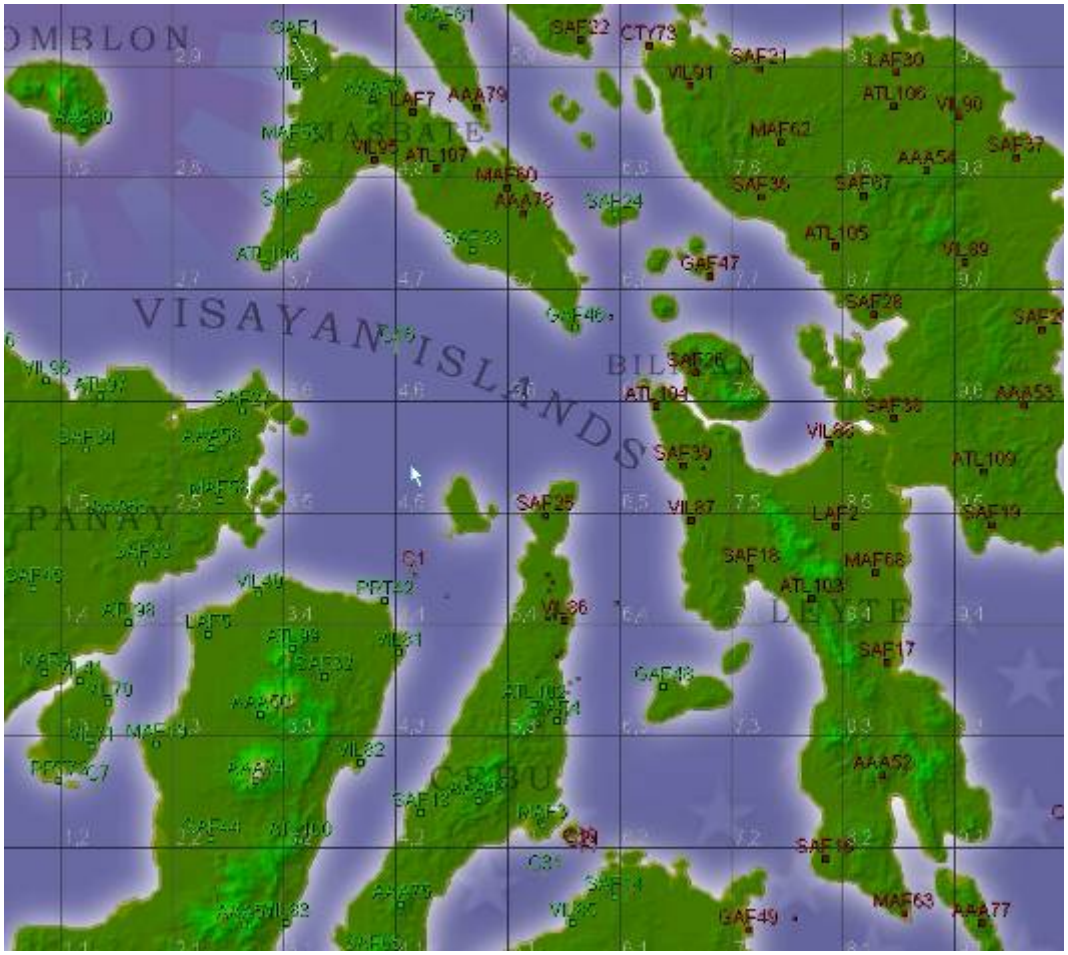
To return to the default field of view, press **Ctrl** + **V** or **Ctrl** + **Z**.
F4 jumps to gunsight view, **F11** jumps to instrument view.

Many players put these zoom in and zoom out views on their joystick buttons to improve gunnery.

Numpad Keys – You can views by using the number pad keys all round the aircraft. These same views can be accessed with the hat switch on top of most joysticks.

Finding & Attacking Targets

The Map is used to find the nearest action in the air. Each sector grid on the Map is 20 miles across.



1. Put the aircraft on autopilot by pressing **X** on the keyboard. The aircraft flies straight and level until either **X** is pressed again or you take over the controls once more.
2. Press **F1** to access the transparent map, **F1** again to make it opaque, and again to close the map. Use the zoom keys, **Shift** + **]** and **Shift** + **[** to zoom in and out respectively.
3. There is one white arrow showing the direction in which you are traveling. The colored dots represent planes in the air; the color of the dot being the color of the country that plane is flying for.
4. Head for an enemy, and press **F1** again to close the map (twice, if necessary).
5. When a target comes into view, a target is labeled with the icon that shows plane type or the target's six-letter identifier. If the icon shows Plane type it is an enemy. Friendlies are identified with their six-letter handle. (**Friendlies are to those aircraft whose ID is the same color as the color you are flying for. i.e. Greens fly with other Greens**.) The number beneath the icons tells you how far

away the target is in hundreds of yards. A 9 below the icon means 900 yards away. If your guns are set to converge at 500 yards that is the range you want to be close to distance 5.

6. Press **F9** to engage WEP (war emergency power), to boost the power to the engine.
7. Lead the target, so that your bullets reach the place where the target will be. If you fire straight at the target (except at very close range), your tracers pass harmlessly behind it.
8. When the target is in your sights at 500 yards or less (distance 5) lead the target just a bit... hit the trigger button on your joystick and watch your tracers converge.

Identifying Targets & Friendlies

Use the **F2** to toggle the icons labeling the other planes:

- Arena Default**—**Shows the distance in hundreds of yards, and the pilot's callsign if friendly, the plane type only if it is an enemy.
- Plane Type**—**Shows the distance and plane type.
- Range Only**—**Shows only the distance.
- Off**—**Shows no icon at all.

NOTE: When online, the arena settings specify which icon labels are available.

Landing

When you have flown around for a while and are out of bullets or low on fuel, it is time to head for home. The key to a good landing is setting up a good approach.

If you are offline and do not want to practice landing click the **X** at the bottom right of the screen. (This is the Quit Flight button.)

1. Find your airfield on the Map (**F1**—use **Shift** + **]** and **Shift** + **[** to zoom in and out) and line up with the runway while you are still three to five miles away, at an altitude of between 1000 and 1500 feet.
2. Throttle back until your airspeed is about 120 mph. More than that is too fast for a safe landing, any less and you may fall out of the sky before reaching the runway.
3. Press **G** to lower the landing gear.
4. Press **Shift** + **Q** to lower your flaps fully.
5. Approach the runway in a shallow descent, using the throttle (and **+ or - keys**) and joystick to control your speed and rate of descent. Ideally, you should pass over the beginning of the runway at an altitude of less than 75 feet, and at a speed of just under 100 mph.
6. Just before touchdown, gently pull back on the joystick, raising the nose just enough for you to see the horizon below your gun sight.
7. When the tires hit the tarmac, reduce engine power, and press the **Spacebar** to engage the wheel brakes. Caution: The brakes cause the nose to fall forward. Releasing them or pulling up on the joystick corrects this.

8. Once the plane has stopped, click on **Quit Flight** in the bottom right of the cockpit screen to return to the Control Tower. Do not be discouraged if you find landing difficult at first, it does become easier with practice.

Bailing

To jump out of the aircraft before it crashes, press the **Enter key three times** in a row when in flight. The canopy of the cockpit opens and you are in free fall. The chute opens automatically at 500 feet, but to open it earlier, **press Enter three times** in a row again. The chute falls very slowly and there is no way out of it until you land, so opening at high altitudes is not recommended unless you have a lot of time on your hands and want to enjoy the view.

Keyboard Commands

NOTE: Pressing the HELP KEY on the bottom of the main cockpit screen while FLYING can display all these commands. Also these Keyboard commands and Joystick controls can be customized using the Input Mapper screen.

IMPORTANT!

Help is also available while flying! Pressing "**CONTROL and F1**" at the same time brings up a list of commands. Find the Command you are looking for in the list.

Click on the command. The command is Implemented and the other way to implement that command is show in the "Text Buffer" in the bottom left of the main screen.

Aircraft Controls

Center Joystick	F12
Left Rudder	A
Right Rudder	D
Center Rudder	S
Gear Up/Down	G
Wheel Brakes	Spacebar
Dive Brakes (if applicable)	Spacebar
Flaps Down 1 Notch	Q
Flaps Full Down	Shift + Q
Flaps Up1 Notch	W
Flaps Full Up	Shift + W
Autotrim Level	X
Autotrim Speed	Shift + X
Autotrim Angle	Ctrl + X
Elevator Trim Up	I
Elevator Trim Down	K
Rudder Trim Left	L
Rudder Trim Right	J
Aileron Trim Right	M
Aileron Trim Left	,
Clear Trims	G
Eject	Enter Enter Enter (quickly)
Bail Out	Ctrl + B
Open Chute (after bailing)	Enter
Exit Plane (on runway and online)	Ctrl + B
Toggle Mouse Control	Alt + M

Radio Keys

Radio 1	/
Radio 2	Shift + /
Radio 3	Ctrl + /
Radio 4	Alt + /
Expand/Shrink text window	Tab

Engine Controls

Start/Kill Engine 1	E
Select & Start all Engines	Shift + E
Throttle Up 5 Percent	=
Throttle Down 5 Percent	-
Full Throttle	0 (zero)
Engine Idle	1
War Emergency Power (WEP)	F9
Next Fuel Tank	.

Bombing Keys

Open/CloseBomb Bay	O
Drop Bombs	B
Salvo Toggle (Pickle mode)	Ctrl + P
Jump to Bombardier position	Y
Change to Bombsight when in Bombardier position	Numpad 2
Bombsight Increase Magnification	[
Bombsight Decrease Magnification	]

View Keys

Forward	Numpad 8
Left	Numpad 4
Right	Numpad 6
Back	Numpad 2
Up	Numpad 5
Forward/Right	Numpad 9 or 8 + 6
Forward/Left	Numpad 7 or 8 + 4
Forward/Up	Numpad 8 + 5
Right/Up	Numpad 6 + 5
Left/Up	Numpad 4 + 5
Right/Rear	Numpad 3 or 6 + 2
Left/Rear	Numpad 1 or 4 + 2
Rear/Up	Numpad 5 + 2
Autopan Left	Ctrl + Numpad 4
Autopan Up	Ctrl + Numpad 5
Autopan Right	Ctrl +Numpad 6
Change view type	Shift + O
View Badguy toggle	Shift + 8
Select next Badguy	Shift + 9
Overlay Map Toggle	F1
Map Zoom In	Shift + [
Map Zoom Out	Shift+]
External View Toggle (when allowed)	Ctrl +E
External View Zoom Out	]
External View Zoom In	[
Move around in external view	Numpad arrow keys
Zoom Out (Field of View bigger)	V
Zoom In (Field of View smaller)	Z
Default Field of View	Ctrl + V or Z
Change Cockpit Head position	\
Cockpit lean (for Carrier landings)	U
Track View (chase cam)	Alt + V
Snap to Instrument view	F11
Snap to Gunsight view	F4
Toggle Sticky snap	Shift + P
Toggle Icon	F2

Gunnery Keys

Fire Guns	F
Fire Secondary Gun	B
Select Secondary weapon	Backspace
Jump to Observer position	Space
Jump to Pilot position	1
Jump to Tail Gun position	2
Jump to Nose Gun position	3
Jump toLeft Gun position	4
Jump to Right Gun position	5
Jump toTop Gun position	6
Jump to Bottom Gun position	7
Toggle Otto (automatic gunner)	Ctrl + T

Interface Keys

Toggle Clouds	Alt + K
Toggle Horizon Texture	Alt + H
Toggle Cockpit	Ctrl + C
Toggle HUD (red text)	Ctrl + H
Toggle Ocean	Ctrl + O
Toggle Slew mode (offline only)	Ctrl + S
Toggle Detail	Ctrl + V
Take Screenshot	Alt + S
Take Screenshot (Mac only)	Cmd + Shift + 3
Select Stick Set 1	F5
Select Stick Set 2	F6
Select Stick Set 3	F7
Select Stick Set 4	F8

Ground Vehicle Keys

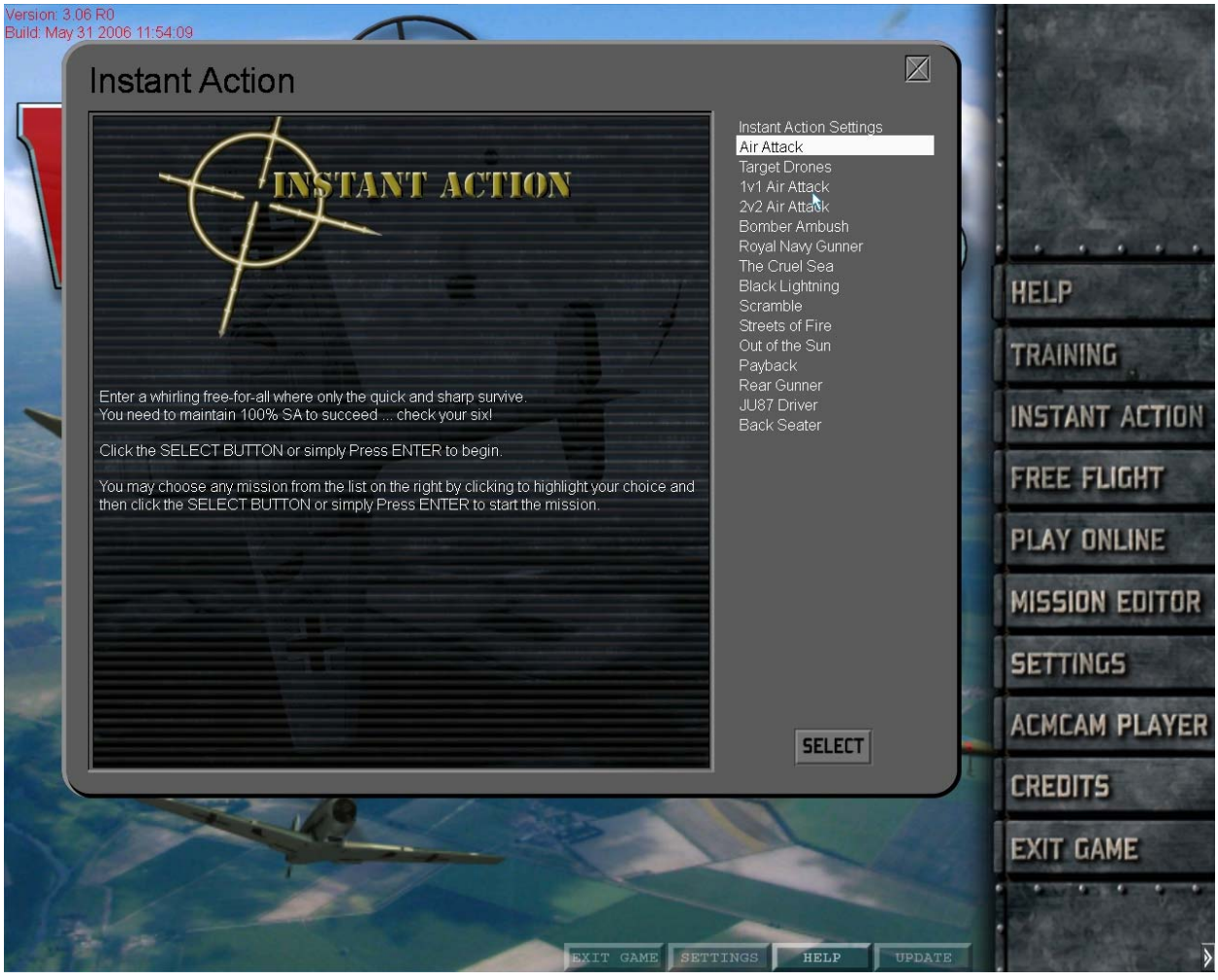
Change up a Gear	;
Change down a Gear	Shift + ;
Cycle through different views	\
Adjust MKIV sight by 500 yards	Q & W
Jump to Driver position	1
Jump to Gunner position	2
Finely adjust aim of main turrets	2, 3, 4, 5, & 6

Offline Missions and Games

There are several preset games available offline in WarBirds. On the Splash/Welcome Screen you can choose one of these Offline Game to practice your flying, bombing, and strafing skills.
Clicking on the buttons other than **GO Online** on the bottom of the 'Splash Screen" will get you additional options to choose.

1) **Instant Action** - 11 Fast Missions to Practice WarBirds flying offline.
2) **Training**- Over 15 training missions to learn to Takeoff, Land, etc.
3) **Go Online**- Play with other Real Players On the Internet. Dangerous Place!
4) **Free Flight**- Fly Offline with no Enemies in any of 9 different Arena Maps
5) **Custom Mission**- Make your own Custom Missions with the Mission Editor.

The **Instant Action** Screen looks like below.



The **Bomber Ambush Instant Action is very convenient** where you and your

wingman attack various bomber aircraft, randomly chosen as targets by the system. The other missions are fun to try too and give great practice for going online.
Once you launch one of the missions in **Instant Action or Training**, you will go to the Tower Screen where you can choose a different aircraft or different armament to try the same missions or missions with the new aircraft.
Often it is practical to launch an **Instant Action** mission with the airplane that is assigned to the mission, click on Quit Flight on the bottom right corner of the offline flying screen, and then go into the Tower Screen to set the following:

1) Invulnerable
2) Unlimited Ammunition
3) No Red Outs or Black Outs
4) Set the Starting altitude at 6000 feet so you can ready to bomb.

To turn off Wingman so you can do all the damage yourself.
There is a similar screen for **Training** with about 20 offline training missions.

1. Select one of the preset online Missions:

– 1v1 Air Attack—Take on an Ace pilot one-on-one. You can select any plane for this mission, and so can he!
– 2v2 Air Attack—You have one wingman to assist in downing two enemy Aces. Your wingman mimics your flight.
– Air Attack—This is the closest to an online aerial dogfight you can get without going online. Join in the swirling furball of the sky. Try to pick an enemy to shoot down, but be constantly aware of all that is around you.
– Bomber Ambush—There is a bomber formation on its way to bomb your airfield. It is up to you and your two wingmen to stop them.
– Carrier Practice—Your Carrier group is on a mission. Defend attacks with one of the following aircraft:

F6F-5	F4F-4	RM-2	F4U-1D
A6M2	A6M3	A6M5a	Seafire II
F4U-4	F4F-3	SBD-5	

– Free Flight—An open arena with no enemy pilots. Practice taking off, landing, and maneuvering to become familiar with various aircraft. Further options can be set using the Flight screen.
– Ground Assault- Puts the player into a WarBirds Tank to take the field and defeat the enemy tanks.
– Malta Assault—Malta is under attack, and it's up to you to jump in your Panzer and defend against the invaders. Jump in one of the aircraft available and defend from the sky.
– Sea Attack—A Carrier fleet is attacking from the north. Jump in your Ju88A-4 and try to torpedo the fleet.

– Target Drones—An open arena with enemy aircraft flying around waiting to be shot at. Use to practice firing your guns at targets that don't shoot back!
– Tunisia Assault—Head for Village 25 with the rest of the tank platoon. Enemy tanks are on their way to meet you.

2. Click to enable or disable the Offline Settings. When the button is lit that setting is enabled.

– Invulnerable to Weapons—Select to never have your aircraft damaged when hit by enemy fire.
– Unlimited Ammo—Select to never run out of ammo.
– Disable Blackouts/Redouts—Select to disable the blackouts and redouts that occur when pulling so many Gs that the blood supply to the brain is affected.
– Disable Structural AirSpeed Limits—Select to stop the plane breaking up when being pushed beyond its limits.
– Cockpit ON—Select to have no cockpit displayed when flying.
– HUD On – Displays the Head Up display information or switches it off

3. Select whether to have your stats displayed while flying.

4. Enter a starting altitude. 0 will start you on the runway.

5. Enter the number of Wingmen you want flying with you.

NOTE: Most of the missions set 4, 5 and 6 above for you and will revert to the mission setting when you click Start, should you change any.

Flying Online

When you have shot down lots of drones (offline targets) and become proficient at taking off and landing, and at flying a variety of aircraft, you are ready to engage in some real combat.

Points to Ponder while Flying Online

Learn the View system (use either the numpad keys or, if you have a joystick, the hat). Situation Awareness is the key to life online.

Redouts and blackouts occur online. If your screen turns red or black you are pulling /pushing with either too few or too many G's. (Right side up, pushing makes negative G's (redouts) and pulling makes positive G's (blackouts).

Don't fire on your own color (country), you'll only damage yourself if you hit. Your gun sight indicates your color (country). Also look in the bottom right of the cockpit or Tower Screen and you will see a flag with your color on it.

The Ack Weenies are the flak and antiaircraft fire from enemy gun positions.

Ask for help. Everyone was a newbie once, and you normally receive polite answers, particularly from pilots flying the same color.

To Get to Help just click on the Help button on the bottom of every screen in WarBirds. This brings up a list of the various commands. When you click on command, the key that accomplishes that command is displayed in the buffer, and the command is implemented.

Also you can ask every one in the Online Arena your question. Just go on Channel 100 (normally by pressing "Shift" and "/" in the default settings in the simulation), and ask your question.

Try to fly in a group. A lone pilot is easily picked on by enemies, with no one around to give any warning.

Check out the fact that by clicking on someone on your team (same color) you either warn him to "Check Six" or you set his handle in Radio 4. Then by pressing "Alt" and "/" you are broadcasting on Radio 4. Note the dot in the circle next to the radio 4 channel which should be set to the player you clicked on.

Attend Training sessions. The Trainers are volunteer, experienced flyers who can improve your flying skills.

Anyone can fly any plane available in the RPS (Rolling Plane Set) in the World War II Area. All aircraft and tanks are available at all times in the Main arena. There are restrictions in the other arenas, depending on the event that is being held.

Creating a WarBirds Account

In order to fly online you need an Internet connection, an Internet Service Provider (ISP) and an account with IENT. You need a credit card to sign up over the Internet.

WarBirds Account**—$13.95** is charged to your account each month and you can fly unlimited in the all arenas outside of the Event Arenas. Event arenas are usually the S3 (Squadron Select Series) held on many Sunday Evenings.

Event Account**—$19.95** is charged to your account each month and you can fly unlimited in all the arenas and full unlimited in the Event Arenas.

Premium Account**—$24.95** is charged to your account each month and you can fly unlimited in any of the WarBirds arenas and in all Events, you can participate in all the Beta and Development versions of WarBirds, you get special access to Customer Service by the Premium Link on the TotalSims.com community page, and you get special discounts on merchandise from time to time.

To create an account go to http://www.totalsims.com/ and Sign Up for an account.

Alternative payment methods

When paying by one of these methods, please include your name, mailing address, email address and the price plan you want to subscribe to in your correspondence.

Your account will be created as soon as we receive the first payment and we will email your account Login ID and password to you.

US & Canadian Citizens: We accept check or money order payments in US Dollars (USD) for one or more months mailed to:

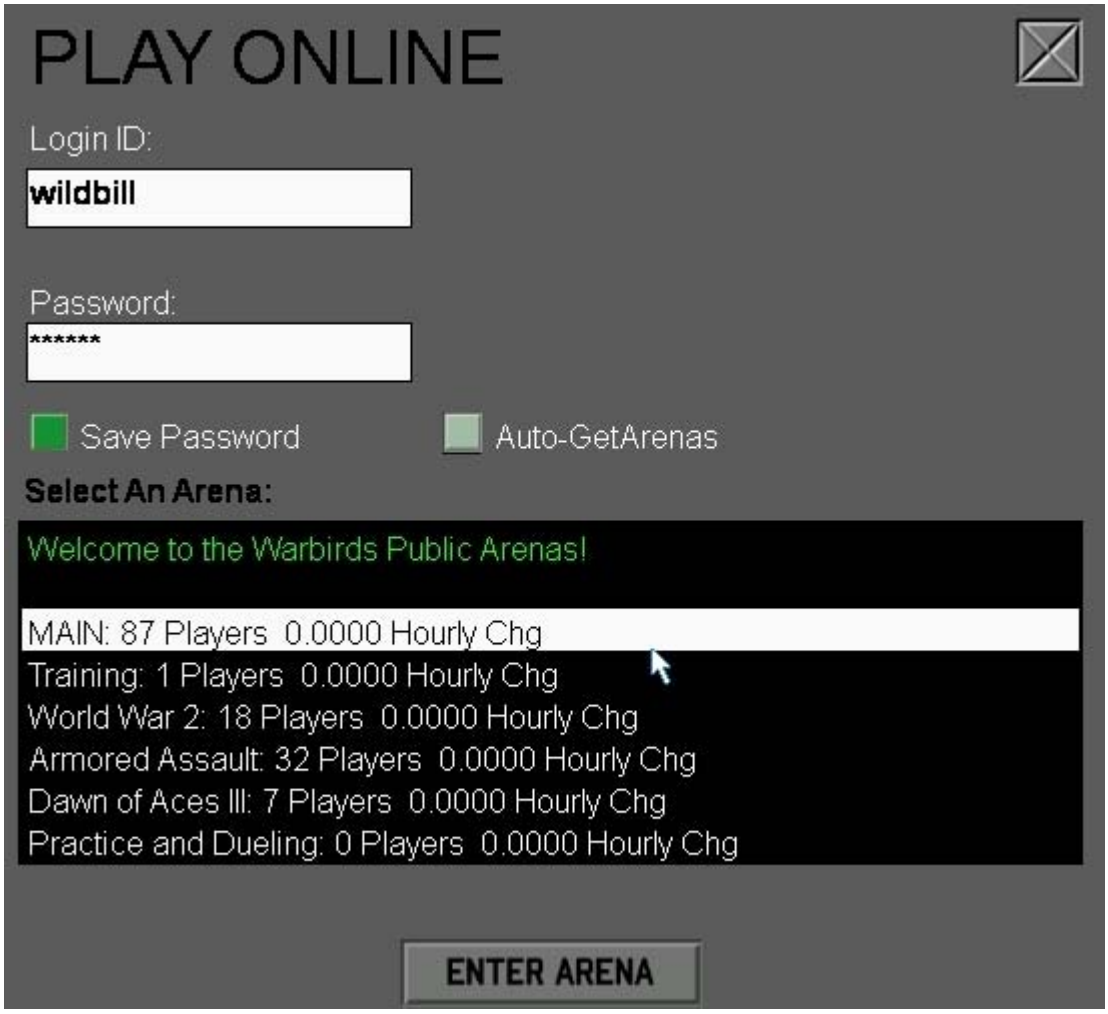
IENT Billing Dept, PO Box 3897, Cary, NC 27519. Phone Number 919-345-2088.

Non-US Citizens: We accept money order payments in US dollars mailed for one or months to the address above.

Payment should be received before your next billing date.

Logging into an Arena

1. Start WarBirds.
2. Select Play Online from the Main menu. The Go Online/Get Arenas window is displayed.
3. Enter your Login ID and Password, and then click Get Arenas. If you have checked Save Password, you do not need to enter the password each time you login. If you have checked Auto-Login, login occurs automatically when you select Go Online from the Main menu.



Arena Selection Window

4. Select an arena from the menu and click 'Enter Arena'. The first time you play online, you are asked to enter a six-character callsign—this is the label by which you are identified within the game.
5. You will have to be ready to choose an online handle.
   a. Callsigns can only be lowercase letters or/and a dash (-)
   b. This handle will be stuck with you while flying so be careful what you choose. To request a change of handle contact wbtech@ient.com but please note that there is a small charge to do this.

   c. This handle will have to be unique and only for you. Not repeated in the game.
   d. Some examples of handles.
      i. kirkx-
      ii. banshe
      iii. gunftr
      iv. –omar-
      v. Mine is WLDBIL. I get caps because I work for IENT.
6. From the Tower, select a plane and a weapons load, a country, and an airfield. To view the action around a particular field or carrier, select it on the Field screen, then move the selection window to one side by clicking and dragging the top bar, and then use the joystick to look around.
   a. You can only do this at fields of your color.
   b. Fields of enemy color are not available to you.
7. You can also click the Airplane Icon on the Tower Screen and see the Runway layout and pick a Spawn Point (where your craft starts on the field) from this screen.
8. You can also zoom in and zoom out the map using the + and – keys on the Tower Screen.
9. You can use the directional controls to move the map left, right, up and down at whatever size you desire.
10. Ready to Go? Click Fly. Release all the controls and press **F12** to center the joystick.
11. Once you are airborne put the plane on autopilot (Shift **X for autotrim on Speed**) and press **F1** to consult the map. Locate the action and set a course for that general area. As you approach, scan the skies to locate friend and foes. Friends are the same color as you, enemies are not.

Private Arenas

The Private Arena feature is primarily for Special events, and Private arenas can only be enabled by Community Managers (CMs).

Private Arenas are most often Events like the Sunday Night S3 Events. On many Sunday nights you will find 200 online players with 70 bombers flying missions and fighters, both Axis and Allied, attacking and defending the Bombers.

Great Fun. Be sure to join!

When a Private Arena has been set up for an event, all those participating are notified of the password.

To join a Private Arena launch Flyboys Squadron as usual, and before clicking Play Online, open the radio buffer, (before logging in!), by pressing the "/" key while at the Main Menu and type "**.privatearena *password* "**

For example:

Launch WarBirds as usual.

Press **/** to open the radio buffer.

Type **.privatearena 1a2B3c** where 1a2B3c is the password (passwords are case sensitive).

Select Go Online from the Main menu, the Login window is displayed. Enter your Login ID and Password as usual.

In the Arena menu select the Private Arena, and then click the Login button.

Please note if you exit WarBirds you must return to Step 1. To enable the public arenas again, type **.privatearena**

In order to return to the public arenas do not type a password again just type plain .privatearena press ENTER and then go “Online” again.

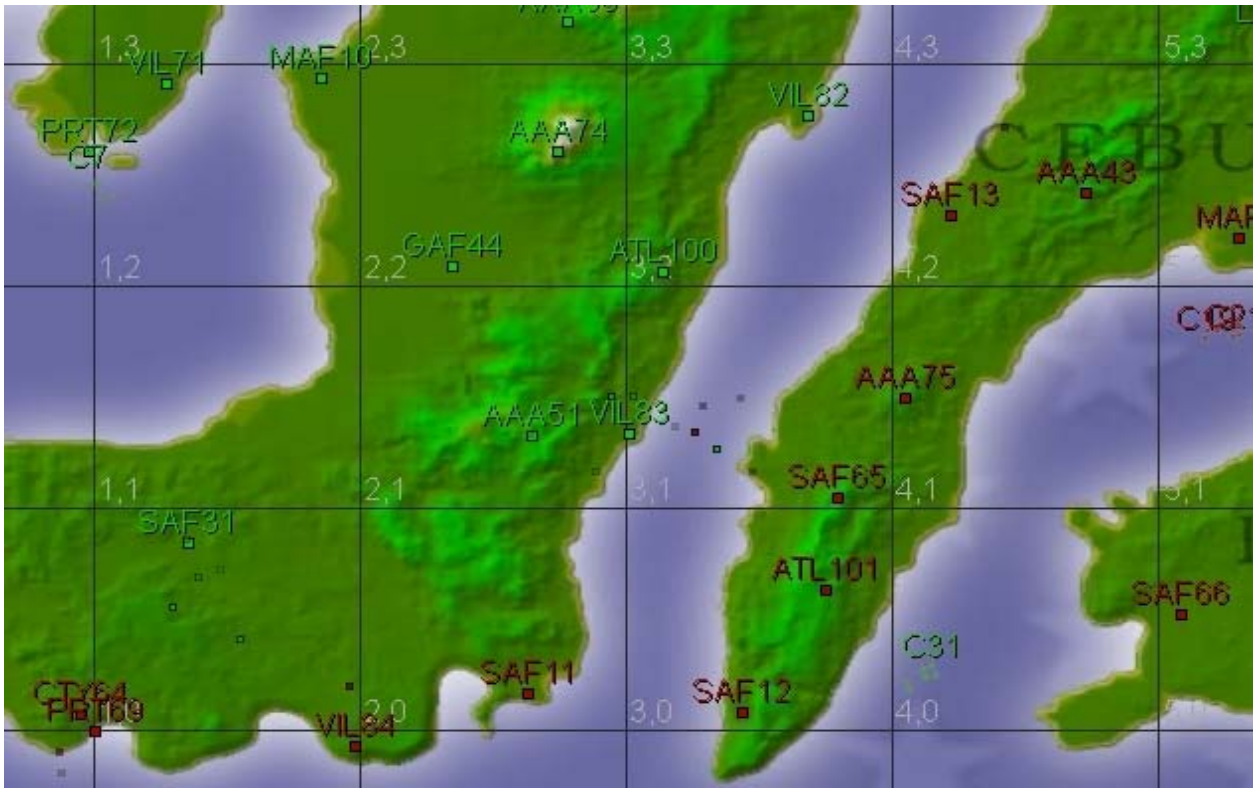
Alternatively, if you just exit the game, and then restart it from the desktop, the Public Arenas should be shown on the Arena list.

Viewing the Activity around the Field

To view the activity around a field before deciding to hit the runway, move the Tower Map screen by clicking and holding down the left mouse button on the top bar of that window, and then move it out of the way.

Move the joystick around to view the area around the Control Tower. You can view in all directions. It is fun sometimes to watch others land in this view.

Also make sure you look at the Map to see where all the enemy dots are. They are the dots on the Tower Map Screen that are not your color! Note the dots below between 3 and 65!

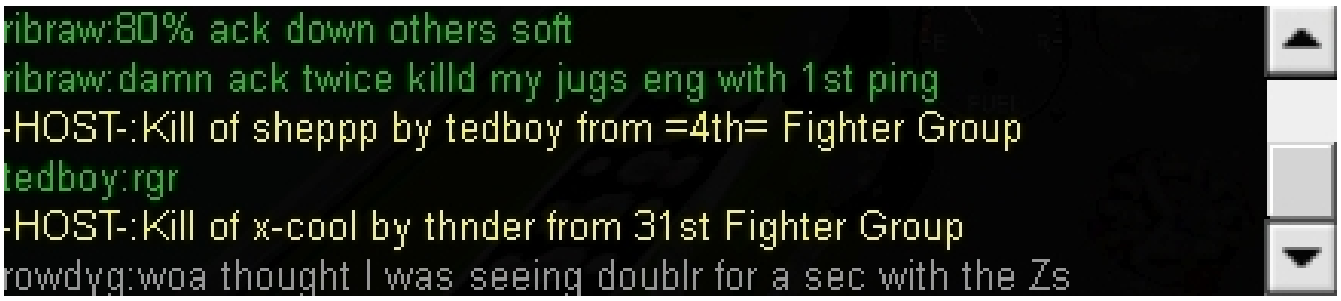


Using the Radio Buffer

Chatting using the keyboard is one method of communication in WarBirds, as everyone has access to it. However, everyone who plays WarBirds now have access to TeamSpeak (real voice communications) while playing the game for FREE courtesy of the IENT TeamSpeak Servers. The keyboard/text method in the buffer can talk to all players in the game where TeamSpeak is limited to those players on your TeamSpeak Channel.
English is the language employed by most pilots, but pilots from many other countries also fly. Have patience with these players, English is not their first language, and they are probably asking for help. Help them if you can, or ask others to do so.

If a player you are trying to chat with does not reply immediately, assume that they are in the middle of combat and too busy to type.

The Chat Section or Buffer is in the Bottom Left corner of the main flying screen and most screens.



Wild Bill says:

"Tedboy" is my Squadron Mate from the =4th= Fighter Group. I was talking to him and riding in his airplane when he got this kill with his P-38 Lightning! Great Fun!

Message Display

The Radios channels provide the means to socialize with other players.

There are also messages giving vital tactical information and situation updates.

The up and down arrows next to the incoming messages display area allow you to scroll through recent messages. Press **Tab** on the keyboard to toggle the number of text lines displayed.

Change the width of the radio buffer by typing **.radiowidth** <xxx> where xxx is between 200 and your screen res-32. 440 is the default.

Radio Tuning

Below is a graphic that identifies the ability to choose individual channels used to type on various channels in the text buffer. In this example, the radio is tuned to Radio 1 on channel 110. (See the dot in the circle left of the 110?)

Open the typing buffer for each of four radios by pressing for radio 1, "/". For radio 2, "**shift** plus /": For radio 3, **"Control** plus **/** ". For Radio 4, press "**Alt** plus **/".**,

Tune a radio by clicking in the radio slot, and then typing the number. There are 106 different channels, any of which can be used. The channels serve different purposes and reach different ears, so depending on what you need to say and to whom, use the appropriate channel.

You can also turn the radio with a dot command. The host dot command is " **.radio space** X **space** YYY" where X is the radio number and YYY is the channel.
Channel 100: This is the common channel—every player can send and receive messages when tuned to channel 100.
To communicate with players in flight, use one of the squadron, country or private channels, as listed.

Who Receives Channel Number	**Message Color**
Everybody Channel 100	Gray
Red Channel 101	Red
Green Channel 102	Green
Gold Channel 103	Gold
Purple Channel 104	Purple
Members of the same squadron Squad Channel 110	White
Crewmembers of the same plane Intercom 111	Dark Green
Individual players Player callsign	Bright White
Individuals in a country who are tuned in Channels 1-50	Dull Yellow
Any individual who is tuned in Channels 51-99	Dull Yellow
Everyone Messages from host	Yellow
Everyone Messages from **Game Managers**	Blue

NOTE: Only Radio One can be tuned to channels 1-99. When you first enter the arena, Radio One is tuned to your country channel and Radio Two is tuned to everyone (100). Many times in Squadrons or in events a **Tactical Channel** will be set. It is usually one of the channels below 99 so that everyone in that group can read it together.

Once you have tuned your radios, the settings are retained.
Click on an aircraft in flight to tune Radio Four to that pilot (this can be changed to right-click using the Flight Setup screen). Enter the command **.radio** to display a summary of your currently tuned channels.

Transmitting a Message

To quickly send a message on a particular radio channel, use the appropriate key to open that channel, then type your message and press **Enter**.

Example: If you are flying for Red and you leave Radio 1 tuned to 101, and Radio 2 to 100, in flight press **Shift** + ***/*** before typing the message to transmit to everyone, and press ***/*** to transmit to Red players only.

When in a squadron, tune Radio 3 to 110, and communicate with other members of the squadron by pressing **Ctrl** + ***/*** before typing the message.

Right-click (or Ctrl + click for one-buttoned mouse Mac users) on a fellow countryman to send a “6” call to that pilot (this can be changed to left-click using the Flight Setup screen.

Receiving Messages

You receive messages from other players if they are sent on a channel you can listen to. These are color coded according to the channel on which they are sent.

Ignoring Other Players

There is also an ignore command for filtering out those players who just seem to have a little too much to say. Type **.ignore** <xxxxxx> where xxxxxx is the callsign of the player in question, and radio messages from that player cease to be seen by you.
To reestablish communications with an ignored pilot, press a Radio key: ***/***, **Shift** + ***/***, **Control** + ***/*** or **Alt** + ***/***, and then type **.listen** <xxxxxx> where xxxxxx is the handle of the pilot. Type **.listenall** to reestablish communications with all ignored pilots.

If you leave the game, all ignored players are defaulted to listen mode again.

Community Managers

Community Managers’ names are always in capital letters, and always in blue. These personnel are on the development team, and are logged onto the server side of the game. Their presence is for testing and diagnosing problems within the game environment, and in some cases sorting out troublesome players.

They have absolute authority.

TeamSpeak

In addition to using the Chat Buffer for communication (text at the bottom of the left side of the screen), voice communication for your squadron/other players is available through TeamSpeak 3, a free voice-over-IP service made available through IENT.

Setup

To log into the IENT servers for Free TeamSpeak you need to download TeamSpeak 3 from http://www.TeamSpeak.com. We are currently using the Teamspeak 3.

Download the client for either Mac or PC.

After installation, put the IP, Port, and Password as shown below to access the IENT Teamspeak 3 voice servers! (Note the main password is “ient2011”.

Go to Settings/Options/ in the main Teamspeak 3 screen. There you can set your Voice Record and Playback settings and test them.

When you set up TeamSpeak, make sure you **DON'T USE VOICE ACTIVATION use only PUSH TO TALK or we will have too many sounds coming through the TeamSpeak!**

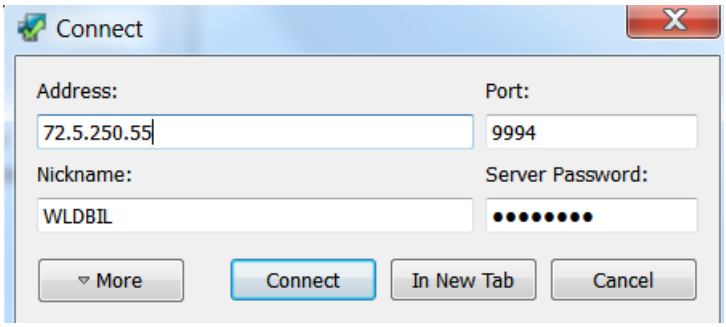
Also turn off all Sound Notifications**.**

A complete discussion of Teamspeak 3 can be found on the WarBird’s Forum here: http://forum2.totalsims.com/viewtopic.php?t=10153

IENT TEAMSPEAK SERVERS

Label IENT TeamSpeak 3 servers

Address: IP and Port both Required



Nickname Your WarBirds handle

Server Password "ient2011"

Now press ‘Connect’ and you should gain access to the IENT TeamSpeak 3 Server.

PASSWORDS

All General Channels have had the Passwords Removed for this time.

If we find that a problem has occurred, we will re-implement the passwords.

All Squad Channels are password protected.

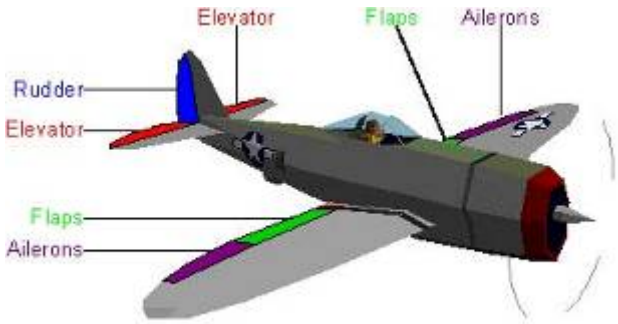
If you have a registered squadron and want a separate channel for your squad, please email Wild Bill at wildbill@ient.com, and one will be set up for you.

Controlling Your Aircraft

Control Surfaces

There are three dimensions within which the aircraft moves, and there is a simple control to change the direction of movement in each of those three dimensions:

- Ailerons control Roll
- Rudder controls Yaw
- Elevators control Pitch



Control Surfaces

Roll

The ailerons, located on the outer part of the trailing edge of the wings, control the roll or bank of the airplane. The two ailerons (one on each wing) work in opposite directions to each other. When the left one is raised, the right one is lowered. The side-to-side movement of the joystick controls the roll or bank of the aircraft.

Pitch

The pitch is the up or down angle of the aircraft, controlled by the elevator. It is located on the trailing edge of the horizontal tail assembly and is controlled by the forward and backward movement of the joystick. Pulling the joystick back moves the elevator up, causing the nose of the aircraft to point up. Pushing the joystick forward moves the elevator down, pitching the nose down.

Yaw

On the trailing edge of the vertical stabilizer on the tail is the rudder. This controls the yaw, or the left and right turning movement of the aircraft. On a real aircraft the foot pedals control this. For those who do not have pedals, the rudder can be manipulated using **A** (left), **S** (center), and **D** (right), or a 3D joystick.

Flaps

The flaps are located on the inside of the trailing edge of the wings, inboard of the ailerons. When this set of control surfaces is lowered the cross-sectional shape (airfoil) of the wing changes. Lowering the flaps creates a greater surface area, increasing lift and drag. Flaps are most commonly used for landing.

Trim

As a plane flies at a particular altitude, weight, and speed, it flies straight and level with the stick perfectly centered. As speed increases the nose tends to rise, and the plane tends to yaw and roll to the right. As speed decreases the nose tends to lower, and the plane tends to yaw and roll to the left.

To control a plane at a wide range of speeds, there are trim tabs that are adjusted to allow the plane to fly straight and level for many different sets of conditions. When a plane is “in trim” it is trimmed for straight and level flight with the joystick centered at that airspeed and condition. When a plane is “out of trim” its joystick center is far from the center of its travel, which means that input is needed to make the plane fly straight and level.

This creates two problems. Firstly, since the joystick center is not the same as the physical force center it makes flying straight and level tricky, and making small, gentle adjustments all but impossible. Movements tend to be jerky and really inaccurate, which causes problems when lining up guns on enemy planes. Gunnery is much easier and smoother when the plane is in trim.
Secondly, if the center of force is too far from the joystick center, you simply run out of stick. If you have to have the stick ¾ of the way back to maintain level flight there is only ¼ of normal movement remaining to be used for maneuvering. In this instance, you would barely be able to maneuver at all.
The solution is to trim the plane for a speed close to that at which you are fighting. In WarBirds, the following keys adjust the plane’s trim:

Nose down elevator trim	K
Nose up elevator trim	I
Left rudder trim	L
Right rudder trim	J
Left roll trim.	,
Right roll trim	M

Autotrim

To take the tedium out of making constant adjustments to the trim manually, there are the autotrim keys. When autotrim is engaged, it takes a few moments for the plane to get in trim. The plane can be left flying on autotrim, or you can take over the controls once again, simply by moving the joystick.

Ideally, the plane should be trimmed for the speed it will be fighting at, so that the joystick is centered when you really need it to be. Take the type of plane being flown into consideration when deciding on the best speed to have the plane in trim.

Maneuvers

Aileron Roll

The Aileron Roll is a complete roll, revolving once around the fuselage.
To perform an Aileron Roll, move the joystick to the right or left and hold it there until the plane is upright once again. Straighten out and press **X** to return to straight and level flight.

Break Turn

The Break turn is the standard evasion against attack from astern. You turn as hard as possible in the direction of the attacker, to increase deflection quickly, and make your plane harder to hit. It is best to execute a break turn when level or lower than the attacker. Never break above your opponent, as you lose speed and your size as a target increases. To perform a Break turn, move the joystick to the right or left, and then pull back on the joystick to tighten the turn. Be careful not to pull into "Blackout". Straighten out and press **X** to return to straight and level flight.

Chandelle

The Chandelle, in very simple terms, is a climbing turn. The turn can range from 90 to 180 degrees. It is a low-G move, and aims to conserve as much energy as possible. The Chandelle allows you to remain near the fight, and to keep visibility on the fight or target as you look down and back over the wing, while gaining altitude.

To perform the Chandelle, move the joystick to the right or left, then pull the stick back gently to climb while you are turning. Once you have finished the turn, you are at a higher altitude, and on a different heading. Center the stick and return to straight and level flight by pressing **X**.

Immelmann Turn

The Immelmann turn is a simple yet very effective maneuver under the proper tactical circumstances. The name is derived from its inventor, Max Immelmann, a WWI German Ace who devised the method. In reality, the version most people are familiar with today from air shows is not the one that Max Immelmann found so successful.

To perform the air show version, from flying level with good energy, pull back on the joystick, bringing the aircraft into a steep climb. Maintain the climb until the aircraft passes through the vertical and completes a half loop. At the top of the loop, the plane is inverted. Roll it back to the upright position. It is now at a higher altitude and is traveling in the opposite direction.

This air show version can be flown in different ways. If your opponent has enough energy to follow you into the loop, there is a moment of inertia where your speed is low, and you are a sitting target. The reversal can be aggressive, limiting the altitude gain in exchange for maintaining additional speed after completion, or it can be very gradual, with completion at a higher than normal altitude, but with the aircraft at near stall speed.

Max Immelmann's actual combat Immelmann is also known as a version of "Boom and Zoom" (BnZ). He would make a high energy pass at his opponent, pulling up into an efficient vertical climb until he was sure he was out of the range of his enemy. Then he

would use a rudder reversal to drop back down from a position of advantage and repeat his attack.

Loop
The Loop is a full 360-degree rotation in pitch, in other words a vertical circle. Perform the Loop by pulling back on the joystick and maintain back pressure as the aircraft climbs, inverts, dives and then returns to level flight, with the wings level at all times. At the top of the loop, the torque effect from the engine begins to corkscrew the aircraft counterclockwise. Add right rudder and roll to counter the torque effects. When completed, center the joystick and press **X** to recover straight and level flight.

Scissors
The Scissors is a series of turns designed to force an attacker on your six to give up their angle advantage. This is a very aggressive move. If you try to use it, it is important that you think aggressively. You are trying to force an overshoot—a total reversal, putting you on the attacker's six.

The steps to perform the Scissors are fairly simple, but it takes practice. The following steps assume that the attacker is on your six and at a range of 6 or 7. It they are further away, use short turns to bring them in, but do not let them get a good tracking shot at you.

It is important to fly this fight entirely in the rear view, switching from rear to top/rear, always keeping the attacker in sight, so that you can react quickly.

Begin with a fairly hard turn, held long enough that they have to roll and turn to keep you in their sights. Once they enter the turn, roll your aircraft in the opposite direction, and then turn hard that way, keeping the nose low to conserve energy.

When you see their wings start to roll in answer to your turn, quickly roll back in the opposite direction, and turn that way with the nose low.

The attacker tries to follow, and again when they start to turn, you turn back the other way.

Usually, after two or three turns, they have lost their angle advantage, and are starting to wonder what has happened. This is the critical point of the fight.

When they are more in the top view than in the rear view, they have lost their angle, and now is your chance to attack them.

- You have got to be aggressive to do this move successfully, and be fast on the reversals.
- Try to practice this by letting someone get on your six and then shake them. Do this again and again, until you have a mental image of where they should be when you reverse. Find the right moment to make the turns for each plane you fly.
- The first left or right break is held longer than the rest—that is the one that hooks

the attacker. The rest are short and fast, dictated by how long it takes the opponent to react and reverse.

Skid

The Skid is a lateral slide with a gradual loss of altitude, and is commonly used as a defensive maneuver to throw off an attacker's aim. It can be performed without incurring a large increase in speed or change of direction, while trading in only a small amount of altitude.

Perform a Skid by dipping one wing and then applying opposite rudder. The aircraft skids in the direction of the dipped wing. While in this maneuver, the aircraft sinks and loses altitude. Because your actual direction of travel is different to the direction that the aircraft is heading, it throws off the attacker's gunnery. However, it does not take long for an attacker to adjust their aim, so do not hold the maneuver for too long.

Split-S

The Split-S is a half roll, followed by a half loop, to return to straight and level flight. It is primarily a defensive move, unless you are attacking with considerable altitude and are meeting the target nose to nose—you would then let them pass beneath you, and then perform the Split-S to arrive at their six.

To perform the Split-S, roll the plane until it is inverted and in level flight, and then pull back on the joystick. Maintain backpressure as the plane dives and then returns to normal flight.

- Practice the Split-S over a runway, so that you can check your heading visually.
- A variation is to perform an additional roll when you pass the 90-degree mark of the half loop. A roll affected while you are pointed straight down is a very effective escape maneuver.

Wing Over

The Wing Over is a common maneuver for altitude and position recovery after a diving attack—especially after a diving attack on a ground target.

To perform the Wing Over, pull back on the joystick to enter a climb. Close to the top of the maneuver, the aircraft should be just above its stall speed (but not stalling), apply full rudder to yaw the plane over until the nose is pointing down in the opposite direction of the original climb. Try to ensure it does not roll over onto its back when in the yaw motion. Once the nose is pointed down, center the rudder, and enter back into a dive.

A tricky maneuver that is handy after a diving attack, setting you up for a second run.

A very common maneuver with the "Boom and Zoom" (BnZ) flyers, especially with the fast planes.

Performed by an experienced flyer, this maneuver can surprise a pursuer by quickly reversing on them.

If you have a distance lead in a chase, use this to convert from a defensive posture to an offensive one. The trick is not to be shot up when reversing.

Structural Limits

There are two effects on the structural limits of the airframes, over-speed and structural failure.

Overspeeding

When the plane dives too steeply and travels too quickly, when the heavy vibration or wind force tears parts off. At these speeds, you may be experiencing blackouts, compression, or shuddering. In fact, those effects become a problem before you reach overspeed.

To avoid overspeeding the plane, when you begin to feel the plane compressing (not responding to the controls due to the force of the wind limiting movement of the control surfaces), or shuddering violently, ease back your throttle and gently pull out of the dive. Some planes are able to dive faster than others are. A little practice gives you a good idea where the limits are.

Overstressing

Structural failure occurs when pulling too many Gs overstresses the aircraft. It is heavily dependent on fuel load, ammo load, the altitude, and the plane type. There is a warning sound, like metal straining and bending, which lets you know the airframe is being overstressed. When you hear this, ease up on your controls and throttle to avoid losing important parts of your plane, such as the wings.

In the large bombers, overstressing limits are quickly reached, as the big birds are not built to withstand many Gs. In most of the fighters, you have to reach blackout, shuddering, and compression effects long before you start ripping parts off the plane. A bit of practice lets you know how hard you can push the aircraft. Each plane also has a gauge indicating how many Gs you are pulling (or pushing). Blackouts occur at +6 to +7 Gs, redouts occur at -3 to -4 Gs. The planes are generally tougher than you are in this regard. If you can still see, chances are your airframe is not in danger.

Spin Recovery

Spins occur when one wing stalls and pulls the plane into a spin towards the stalled wing. Normally, this is because you pulled or pushed the nose too hard at slow speeds. You feel the plane begin to “mush” and if you continue pulling or pushing too hard, the plane rolls and the nose drops. If you ease up or let go of the controls, the plane recovers very quickly.

If you continue pulling or pushing too hard, a fully-fledged spin can develop. The airspeed drops and stabilizes below stall speed, and the plane rotates quickly along the yaw axis. Once you reach this point, you are unable to escape until the speed is above stall speed. Follow these steps until you see the airspeed begin to climb again, and the rotation slow down:

1 Full rudder in the direction opposite the spin. (This is confusing if in an inverted spin, but try to do it correctly.)
2 Push (or pull, if inverted) the nose towards the ground to build speed.

3 If at full throttle, ease off. If the engine is at idle, ease power on. If you have lost the engine, skip to step 6.
4 Push (or pull) the stick back and forth to develop a rhythmic swing of the nose up and down until it is pointed towards the ground, and you can keep it that way.
5 Anything else you can think of.
6 Bail out.
7 Try not to reach step 8 before step 6.
8 When you are too low to bail out successfully, adopt the last ditch panic procedure of entirely futile yanking of controls and crying.
9 Crash.

As a general rule, spins are a lot more dangerous the lower you are, since there is not as much time to recover. It is a good idea to fly a little less aggressively at very low altitudes. Be careful not to go into a secondary spin. This occurs when the plane recovers from the first spin then enters a second one in the other direction because of the extreme position of the controls used to recover from the first. To avoid this, when you feel the plane reaching the point of recovery, ease up and be ready to neutralize the controls.

You often find that when the plane recovers, it is inverted. Do not panic; gently fly it out and roll to right it. Yanking the controls just after recovering from a spin is a certain recipe for a secondary spin.

NOTE: Being inverted or spinning for too long starves the engine of oil and causes it to seize.

Secondary Note: do not mistake a spiral dive for a spin. As long as the airspeed increases above stalling speed, you are in a spiral dive. If the aircraft maintains the speed below stalling speed (usually less than 80-90 mph) you are still in a spin.

Engine Management

In WarBirds, oil pressure and coolant temperature have an effect on the engine. Each engine has a dial in the cockpit, with oil pressure on the left and the coolant temperature on the right. Your engine's coolant temperature rises if the oil pressure falls into the red area of the gauge for too long. Once the coolant temperature needle goes into the red on the temperature gauge, the engine may seize. Some planes take longer than others to reach this state.

Your engine's temperature can also become too high if you use the WEP (War Emergency Power, **F9**) for too long. If this happens, the WEP shuts off and cannot be used until the engine has sufficiently cooled.

There are two things that can make the oil pressure drop. One is damage to the oil system caused by enemy fire. The other is flying inverted for too long. If the oil system is hit, head for the nearest airfield or prepare to ditch. If you have to fly inverted keep an eye on the oil pressure gauge.

Bombing & Gunnery

Bombing

While solo combat is considered by some to be the most glamorous form of online flying, a lot of WarBirds players enjoy flying a bombing mission.

Choose the bomber you want to fly from the plane screen. Select your bomb load using the Ordnance-Loadout drop-down menu.

Executing a Bomb Run

1. Fly in pilot mode (position1), leaving the gunners to keep enemy interceptors at bay. Observe the situation around you by using the numpad keys or the joystick hat. If you are flying an uncrewed bomber, press **Ctrl** + **E** to toggle the external view of the bomber.
2. Put the plane on autopilot by pressing **X**, and open the map by pressing **F1**. As soon as your bomber enters the sector where your target is located, make your approach turn— ideally at a distance of 10 to 15 miles. Press **Y** to assume the bombardier's role.
3. Now press the numpad **2** to look through the bombsight. You see the aiming cross hairs, and a bombsight deviation needle in the upper-right portion of the display. You are on the right course when that needle centers and the green light is on, but you must hold a straight and level course for the needle to center. Press **[** to increase the magnification of the bombsight view and **]** to decrease it.

Norden Bomb Sight

4. Press **O** to open the bomb bay doors. When the needle is centered, the green light is on, and the target is squarely in the cross hairs, press **B** to release your bombs, one bomb drops for each key press.

Press **Y** to return to the cockpit, if necessary, and return to base.

Setting up a Salvo

Bombs can be dropped individually or in salvos.

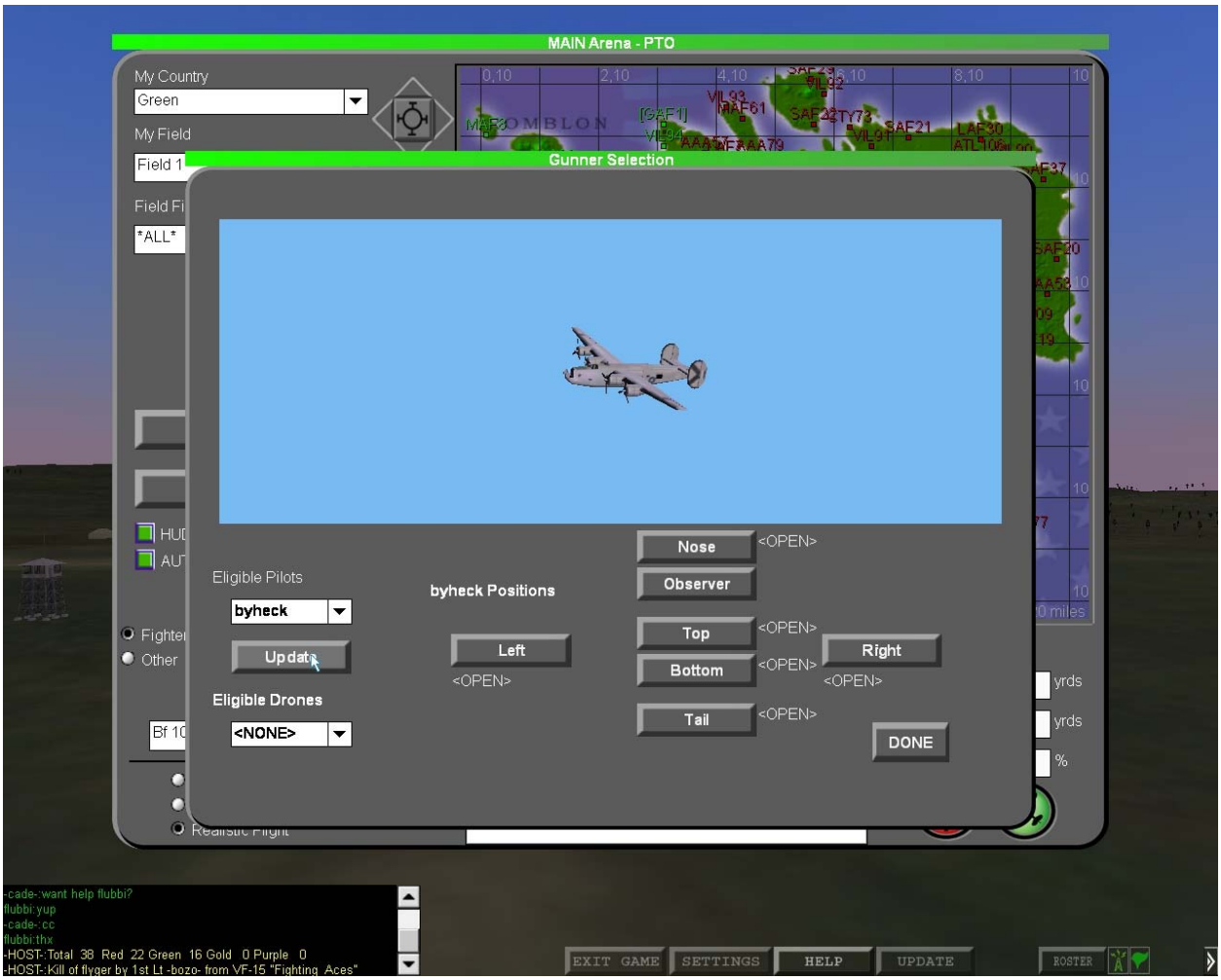
1 Type .salvo xx in the Radio bar, where xx is the number of bombs in each salvo.
2 Then type .delay xxx in the Radio bar, where xxx is 50 to 1000 and is the delay in milliseconds between each bomb release.
3 Press **Ctrl** + **P** while in flight to turn salvo mode on or off.
4 Follow the steps in Executing a Bombing run. When **B** is pressed xx number of bombs are dropped, with xxx milliseconds between each drop.

Gunnery

Newcomers to WarBirds can gain valuable skills in leading targets and deflection shots when taking up gunner positions, without having to fly the aircraft. If you want to join as a gunner, it is a good idea to ask the pilot you want to join over the radio first.

Signing-On as a Gunner/Observer

To Sign on as the Gunner/Observer, click the Gunner Tab on the Main Tower Screen.
Clicked on the Eligible pilots. In this case "byheck" has to be chosen to join. Just right of Byheck's name are the positions I might choose.
Below the page is opened and "byheck" has been selected as the pilot the gunner wants to fly with.



1 Make sure that you are at the same color as the pilot you wish to join.
2 Select the Gunner tab.
3 Select a pilot or an AI General (such as PATTON) from the Eligible Pilots drop-down

menu.

4 Open positions on their aircraft, ground vehicles or ships are listed. Select a position and then select Join.
5 Your will see a “Message Sent” message in the Chat/Buffer in the bottom left corner.
6 Wait for confirmation from the pilot. He has to accept you to join his craft.
7 Once you have been accepted in a gunner’s slot, tune one of the radio channels to 111. This plugs you into the intercom system on that channel.

Joining host drones can also be done using dot commands. Type
.aiattach <ai host> <drone #> <pos #>

Where the ai host is one of the ai Generals, such as PATTON, the drone number is the number of the drone, and the position number is the gunner position. If you attach to a vehicle that does not have the specified position, it defaults to the driver/observer position.

For a list of hosts and drones, type **.aiattach**.
You can also join Carriers or any drones displayed on the Map Screen, by right-clicking (**Ctrl** + **click** for Macs) on it. When attached to a drone unit, the drone can be steered via: **.nav** <heading> <speed> where <heading> is 0 - 360 deg, and <speed> is capped to max for vehicle.
.auto returns navigation control to drone logic. **NOTE:** This is a CM configurable command

Jumping Gunner Positions

A gunner can jump from his original slot to an empty one. To jump to another gun, use appropriate key.

1 Observer/Cockpit	4 Left	7 Bottom
2 Tail	5 Right	
3 Nose	6 Top	

Controlling the Gun
Some gun positions are electric turrets that rotate using the plane’s internal power system. Others are attached to flexible mounts, so that the gunner physically controls the aiming process. The joystick is the default tool for aiming and firing guns, but if you prefer to use a mouse, press **Alt** + **M** while in position.

Powered Turret Flexible Gun Mount

Any vacant gun positions are controlled by “Otto,” the automatic gunner. Otto is not

enabled in all the online arenas.

Artillery Spotting

Towns and villages provide artillery support. The artillery batteries have a maximum range of 20 miles. It takes about 60 seconds for a round to land from the time it is fired at maximum range. The town or village nearest to your position fires the round.

All ground vehicles and aircraft with more than one position (i.e. gunnery positions) can call for artillery.

Firing Artillery

1 Fly over, or drive to the target.
2 Open the radio bar and fire a spotting round using the **.spot** command. This round is aimed at your position plus D2 in the direction you are heading. You are notified of how long the round will take to hit.
3 Adjust the firing aim from a spotting round impact with the **.correct xxx yyyy** command, where **xxx** is the compass bearing from the previous impact in degrees from north, (not from your heading) and **yyyy** is the range from previous impact in yards up to a maximum of 1000.
4 Continue adjusting **.correct xxx yyyy** after each impact, as necessary.
5 When the spotting artillery hits the target, call in a barrage with the **.barrage** command.

For Example: Drive a tank toward town. Stop and begin the artillery with a Spt. Open the Radio bar and type **.spot**. The "Artillery spotting round will hit in xxx seconds" message appears. The round hits about 900 yards southwest of the target. Then type **".correct 45 900"** (as the round has hit to the southwest). This moves the spot to the northeast, which is 45 degrees. The next round hits the target, so I call in a barrage with "**.barrage"**.

Firing a barrage clears all spotting and adjustment targeting. Firing a spotting round clears all spotting and adjustments. If you become confused during adjustment, simply fire another spotting round "**.spot"** and begin adjusting from there.

Degrees of the Compass

North is 0 degrees, and traveling in a clockwise direction from there, East is 90 degrees, South 180 degrees and West 270 degrees.

Capturing Enemy Airfields & Towns

Whenever one country loses all of its airfields, the war is over. Victory goes to the side that controls the most airfields. There are three phases to a successful capture operation: the attack, the capture and the defense.

Closure

There are two ways to close a town or airfield. The first is to destroy all the important enemy ground assets. These include hangars, flak gun emplacements, and any enemy

aircraft caught on the ground. The second is to drop a pre-determined amount of ordnance (tonnage on target), and is only available when enabled in an arena.

Destroying Assets

Destroying a hangar or other ground structure usually requires a direct hit with a bomb or a full salvo of rockets. It is possible to do the job with massed gunfire, but it takes a lot of time and effort and your chances of success are low. As a rule of thumb, a rocket does about half the damage of a 100 lb bomb. The amount of ordnance required to knock out a specific target depends on the weight of the bomb, the range and angle it is dropped from, and the accuracy of the bombardier. Bombs have a blast radius, so it is not always necessary to make a direct hit, but closer is always better.

Towns and villages act as launch points for vehicles, and provide artillery support. All objects within a town are destroyable including trees and fences. The buildings within a town tie into strategy (more to follow in upcoming builds).

Antiaircraft emplacements are easy to knock out. A single bomb, rocket, or a well-aimed machine gun burst usually does the job. However, they are very small targets and unlike hangars, they shoot back. To capture an enemy field, you need to knock out all the emplacements.

Tonnage on Target

Tonnage on Target is when enough ordnance is deposited on a field or town to close it, even if there are still key structures standing. Bombs must be dropped on the target, and hit within the Tonnage on Target radius of the field or town. To view the status of all the fields and towns, type **.fields** in the radio bar. The last section three columns indicate how many damage points are currently inflicted, how many damage points are needed to close the field, and the rebuilding rate.

The points do not equal pounds of ordnance, as a 1000 lb GP would give a different amount of damage to a 1000 lb AP. 180,000 points is roughly equal to five B-24s carrying a full load of 1600 pound bombs.

You can inflict more damage than that need for closure, which means the field then takes longer to rebuild, buying time for the troops to come in for the capture.

The Capture

Once the flak is suppressed, it is time to bring in the paratroopers to storm the airfield and capture the base. Use the Ju52 or C47 troop transports, or the M5 half-track or Opel Truck to deploy paratroopers near or over the airfield to begin the ground attack.

Troops are deployed like bombs. Open the bomb bay doors and press **B** to jettison each paratrooper. The aircraft must be at least 300 feet off the ground for the troops to land successfully. Once on the ground, the troops storm the control tower. If enough troops make it into the tower, they destroy it, completing the capture. Provide support for your troops on the ground, as the enemy will be trying to stop the ground attack.

Capture towns by taking the city hall or church building. This is like capturing an airfield tower. There is just one problem...your paratroops are not smart and will run straight into buildings, trees, etc. So, bomb a path for them, since destroyed objects do not affect grunts, or do some really good airborne drops. If you drop the paratroops inside the courtyard, their chances of getting in are much better.

Paratroopers must land within 3500 feet of the target, or they will be removed with the message “Grunt: You dropped me off target, sir”. Paratroopers can be shot, or you can “capture” them by driving a ground vehicle within 15 feet of them. The Paratroopers surrender with the message “Grunt: I surrender!” and are removed.

Putting up CAP (Combat Air Patrol)

Taking possession of an enemy base usually causes a reaction on the part of the opposing country. It is not unlike jabbing a stick into a hornet’s nest. Planes from any surviving enemy airfields swarm in your direction and attempt to recapture their lost asset.

Therefore, as soon as you capture a base put up an orbiting umbrella of friendly aircraft or ground vehicles if in a village. This aerial screen is your CAP (Combat Air Patrol), and the stronger it is, the better your chances are of keeping control of the base you have just taken.

Ground Vehicles

Selecting a Ground Vehicle

The Tower/Map screen is the default screen when you first enter the game.

On the left side of this Main Screen near the bottom left are the three buttons that you choose Fighter, Bomber, or Other.

1 Select Other in the bottom left.
2 Then click the drop-down menu and select a ground vehicle from the list.
3 Click Fly.

Available Ground Vehicles

Ground Vehicle	Loadout	Ammo
M3 GMC halftrack	1x75mm M1597	59
M4A1 tank	1x30cal M2	1200
M16 halftrack	1x75mm L40 1x30cal M2	90 1200
M5 halftrack	1x50cal M2 Paratroopers	2000 4
PzKpfw IV Ausf H tank	1x75mm KwKL40 1x7.9mm MG 34	87 3000
PzKpfw IV Ausf D tank	1x75mm KwKL24 1x7.9mm MG 34	87 3000
PzKpfw V Ausf G tank	1x75mm KwKL70 1x7.9mm MG 34	82 3000
Opel Truck	Paratroopers	8

Driving a Ground Vehicle

1 Press **E** to start the vehicle's engine.
2 Press the **;** key to change into 1st gear.
3 Increase the throttle using **+** or –, or a throttle control.
4 Continue changing gear by pressing **;** to change up, **Shift** + **;** to change down. Changing down when in 1st gear puts you in reverse.
5 Use the **** key to toggle through the various views available to the driver—some of the tanks have little or no vision from the driving seat.
6 Use Control E to go to the outside view. Use the hat switch to move around the outside view.
7 Use z and v to zoom in and zoom out both the external view and the cannon aiming view.
8 Use the joystick to move the steering wheel to the right and left.
9 Use the **spacebar** to apply the brakes.

Manning a Gun

When driving offline, and online when Otto (the automatic gunner) is enabled, your guns fire at the enemy automatically. However, you may wish to man the guns yourself.

1 Jump to a gunner position by pressing **2** or **3**—not all vehicles have a 2nd gunner position (**3**).
2 Move the gunsight around using the joystick. On some tanks, the numpad arrow keys can also be used to fine-tune your aim. On the Panzers, use the **Q** and **W** keys to adjust the sight as well. This adjustment is a range adjustment and takes considerable practice to get right.
3 Use z and v to zoom in and out in the Gunnery view.
4 Use the joystick firing button or **F** on the keyboard to fire the guns.
5 To look around without moving the gunsight, use the normal numpad view keys, except on those tanks where this fine-tunes the gunsight, where the up/down left/right arrow keys need to be used.

Steering a Drone

When attached to a drone unit, the drone can be steered via:
.nav <heading> <speed> where <heading> is 0 - 360 deg, and <speed> is capped to max for vehicle.
.auto returns navigation control to drone logic. This is a CM configurable command

Destroying Targets with Paratroopers

The M5 halftrack carries 4 paratroopers, which can be used to destroy or capture targets. Drive the M5 to the vicinity of the building or target to be destroyed or captured, and then press **B** to send each paratrooper on their way.

Offline Ground Vehicle Practice

To practice attacking ground vehicles offline:

1 Select Setup from the Main menu.
2 Select the Flight tab.
3 Select the Bomber Ambush mission, and any other selections, as preferred.
4 Open the radio bar and enter **.offbombermodel ground**
5 To return to flying against aircraft, open the radio bar and enter **.offbombermodel ground**

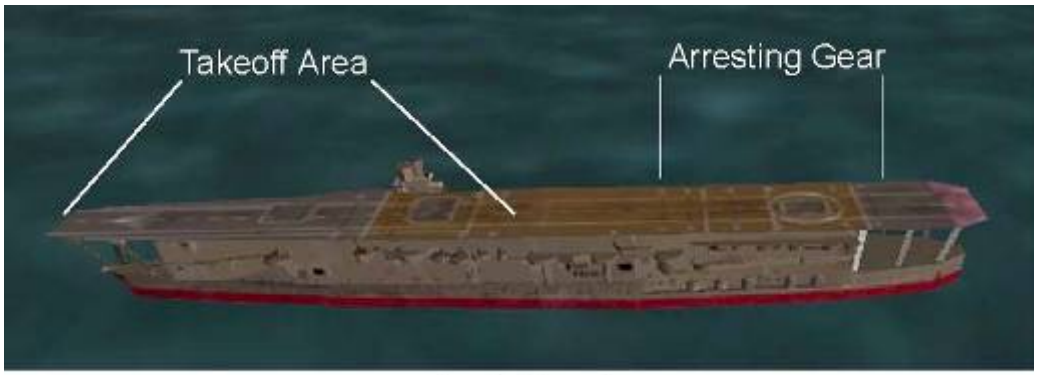
To join in one of the Offline Practice missions that are set up for Ground Vehicles:

1 Select the Offline Game tab.
2 Select Malta Assault or Tunisia Assault from the drop-down menu.
3 The mission begins as soon as it has loaded, so click Start and join in the fun!

Carrier Operations

The Carrier is a moving air base whose planes can add considerable punch to any operation. Sinking an enemy ship is a major achievement—if the Carrier is close to your own airfields, it prevents any attacks coming from it.

NOTE: Carriers are only available online or in the Carrier Practice Mission.



Carrier Vessel

To fly from a Carrier, select one from the Field Selection screen, by clicking on it. Then, select either Fighter or Bomber from the Plane Selection screen, and then choose an aircraft from the drop-down list.

Carrier Takeoffs

Carrier takeoffs are similar to takeoffs from land runways, but with some additional risks. Engine torque can easily pull you over the side if you lose control. Your plane also needs full climbing power to become airborne once it clears the deck.

Select Start from the Main menu.

You are seated in the cockpit on the Carrier. A message is displayed when your chocks are removed.

Release all controls and press **F12** to center your joystick (this is very important).

Ensure that the throttle setting is on zero, and then press **Shift** + **E** to start your engine(s).

Use **=** or a throttle control to rev up the engine to full power.

If the aircraft starts yawing (veering to one side or the other), press **A** to steer left, or **D** to steer right (do not hold the keys down). If you have rudder pedals or a twisty joystick, use them or that instead.

Press **X** while gaining speed to trim the aircraft.

As you approach the end of the carrier, ease back on the joystick to lift off.

Once airborne, press **G** to raise the landing gear, and then **X** to trim the control surfaces.

Move the joystick as gently as possible until you have gained some airspeed and altitude, to avoid having a swim.

Center the rudder by pressing **S**, and when heading in the right direction and at the preferred altitude press **X** to engage the autotrim, which keeps the plane flying straight and level.
NOTE: You may wish to fully engage flaps and use WEP to help with taking off in some aircraft.

Carrier Landings

Carrier landings are sometimes described as controlled crashes, because they are such delicate maneuvers. Firstly, you need to make a slow, level, approach, with just enough power to avoid a stall. If you sense that your approach is not going well, throttle up and climb gently away, circle around and try again.

Carrier aircraft come to a bone-cracking halt by means of the arresting gear. There is a tail hook that extends down from the airplane's tail, and if everything goes right, it catches on one of the thick cables strung across the aft part of a Carrier's deck.

To execute a successful Carrier landing:

Approach the ship at a fairly steep angle, and line up with the deck.

Press **G** to lower the landing gear and deploy the tail hook.

Press **Shift** + **Q** to lower the flaps fully.

Use the Cockpit Lean key, **U**, to change your view.

Just before the wheels touch down, flare the nose up and chop the throttle all the way down.

The ship is moving, so what may initially seem like a good approach might be too short to compensate for the fact that the landing area is moving away from you. Short approaches are the most common cause of crash-landings.
Carrier-based flying is much tougher than ground-based flying. However, most veteran online players eventually strive to master it, just because it is so exhilarating when you succeed.

Manning the Guns

When Otto (the automatic gunner) is enabled, the Carrier guns fire at the enemy automatically. However, you may wish to man the guns yourself.

1 Select a Carrier by right-clicking on one on the Field Selection screen.
2 Jump to different gunner positions by pressing the appropriate key.

1 Observer/Cockpit	4 Left	7 Bottom
2 Tail	5 Right	
3 Nose	6 Top	

2 Move the gunsight around using the joystick, or press **Alt** + **M** to enable the mouse.
3 Use the joystick firing button or **F** on the keyboard to fire the guns.
To look around without moving the gunsight, use the normal numpad view keys when flying online you can man a gun on an AI or player controlled vehicle.

When flying online you can man a gun on an AI or player controlled vehicle.

Torpedo Attacks

Bombs can sink ships, but the attempt usually expends a lot of ordnance, since the ships are armored and can throw up a wall of flak. However, torpedoes strike at the hull below the water line, and a single well-placed “fish” can inflict a mortal wound on a ship.

The German Ju-88 A-4 can carry two torpedoes, the Ju-87D one. Just select Torpedo from the Load Out drop-down menu on the Plane screen.

Executing a successful torpedo attack is much trickier than simply dropping a tight pattern of bombs. In order to hit a ship, the plane executing the drop needs to fly steady, low, and slow—between 25 and 120 feet (8 and 35 meters) and at about 200 mph (320 kpm). This naturally makes it a vulnerable target, since every gun on the enemy carrier has a nice steady shot.

When there are enemy CAPs (Combat Air Patrols) on the scene, a torpedo plane makes an inviting, almost defenseless target, as it is only able to make the minimum of evasive maneuvers during its attack run. After you release the torpedoes, get out of there as soon as you can, jinking all the while.

The angle of attack is crucial. Ideally, a torpedo plane should approach at a right angle as this gives the biggest target, but then the ship’s speed becomes an issue. Remember to lead your target—torpedoes run only about twice as fast as the ships, so getting the right lead is crucial.

A head-on or stern attack renders the torpedo plane slightly less vulnerable, but decreases its chance of scoring a direct hit.

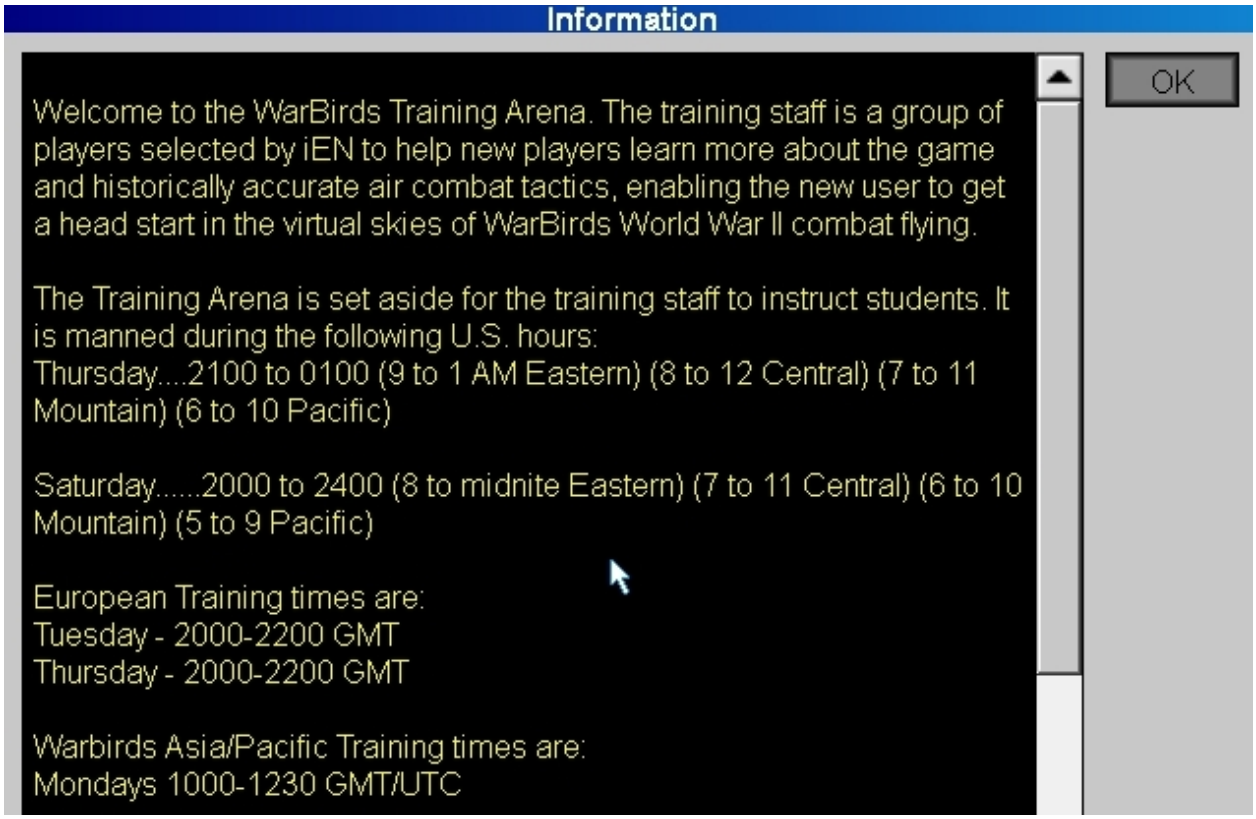
Community

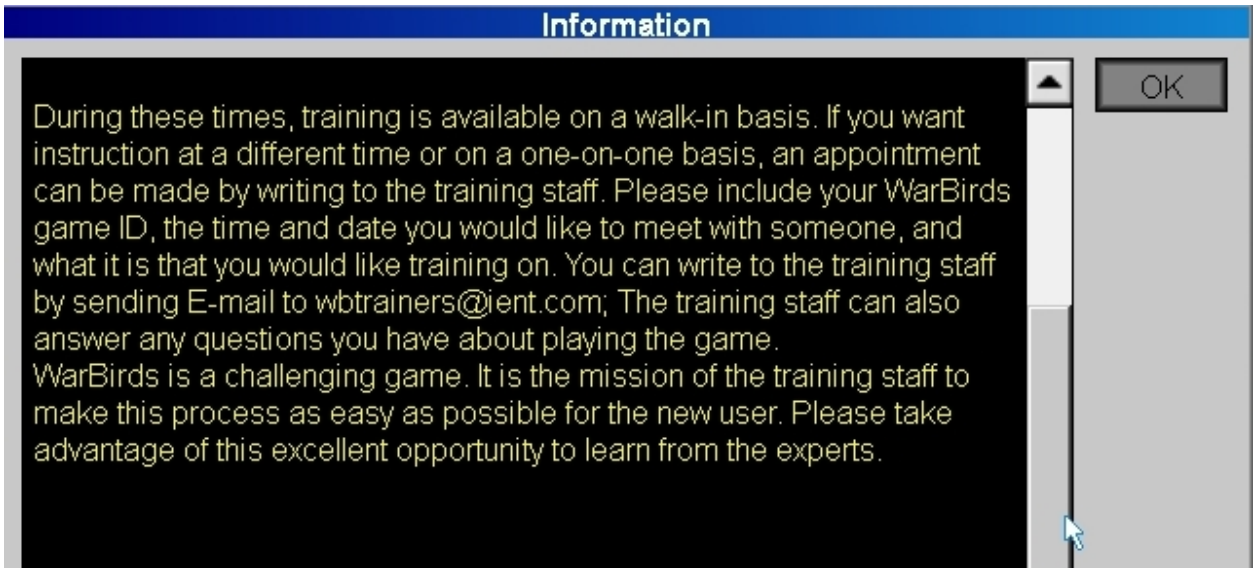
Training

If you crash and burn frequently, the chances are you could benefit from some training. The Training pages provide a wealth of hints and tips, check them out from the Splash page of WarBirds.

The Training arena is where you can gain invaluable advice on flying aircraft one-to-one with a trainer. The trainers are volunteers with years of experience flying in WarBirds.

There are regular training sessions. Here is the Training Times from the Training Arena as of January 2006.





Squadrons

The pilot who flies alone frequently dies alone, and having squad mates to keep an eye on your six, is an invaluable help.
There are over 200 squadrons in WarBirds, ranging from serious historically based squads, to the fly-for-fun brigades.

Flying in a squad, or at least in squad-sized groups gives you a better chance of surviving when flying online. You may be invited to join a Squad.

Most squads have regular squad nights where they fly together in one of the arenas. You are bound to make some life long friends (and enemies!).

On the IENT Forum, http://forum2.totalsims.com/index.php, you can find Squads that are recruiting here. http://forum2.totalsims.com/viewforum.php?f=12

Creating a Squad

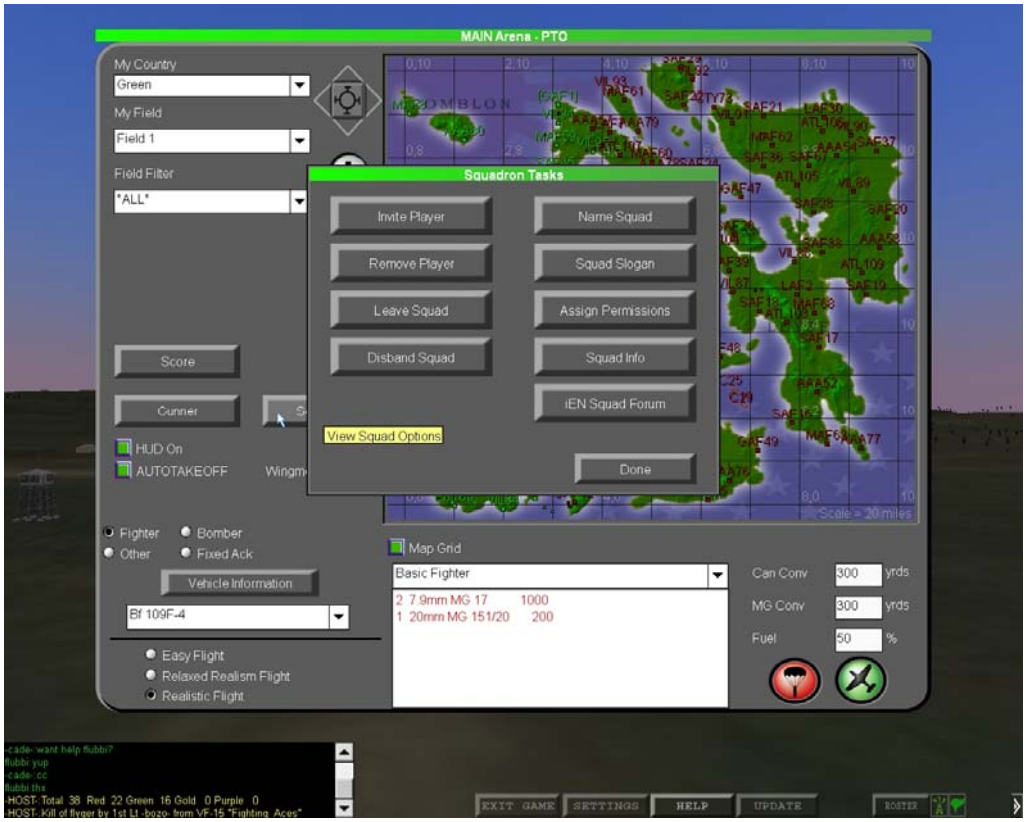
This Squadron Tasks Screen can be accessed from the Main Map Screen when Online.

To Start a Squad, two players must be in the same color (like Green), and must be in the tower.

Then the Squadron CO opens the screen below and clicks on “Invite Player”. The second player accepts the invite he gets from the CO.

The Squad is established.

Then you can add a Squad Name, Slogan, and Website.



Joining a Squad

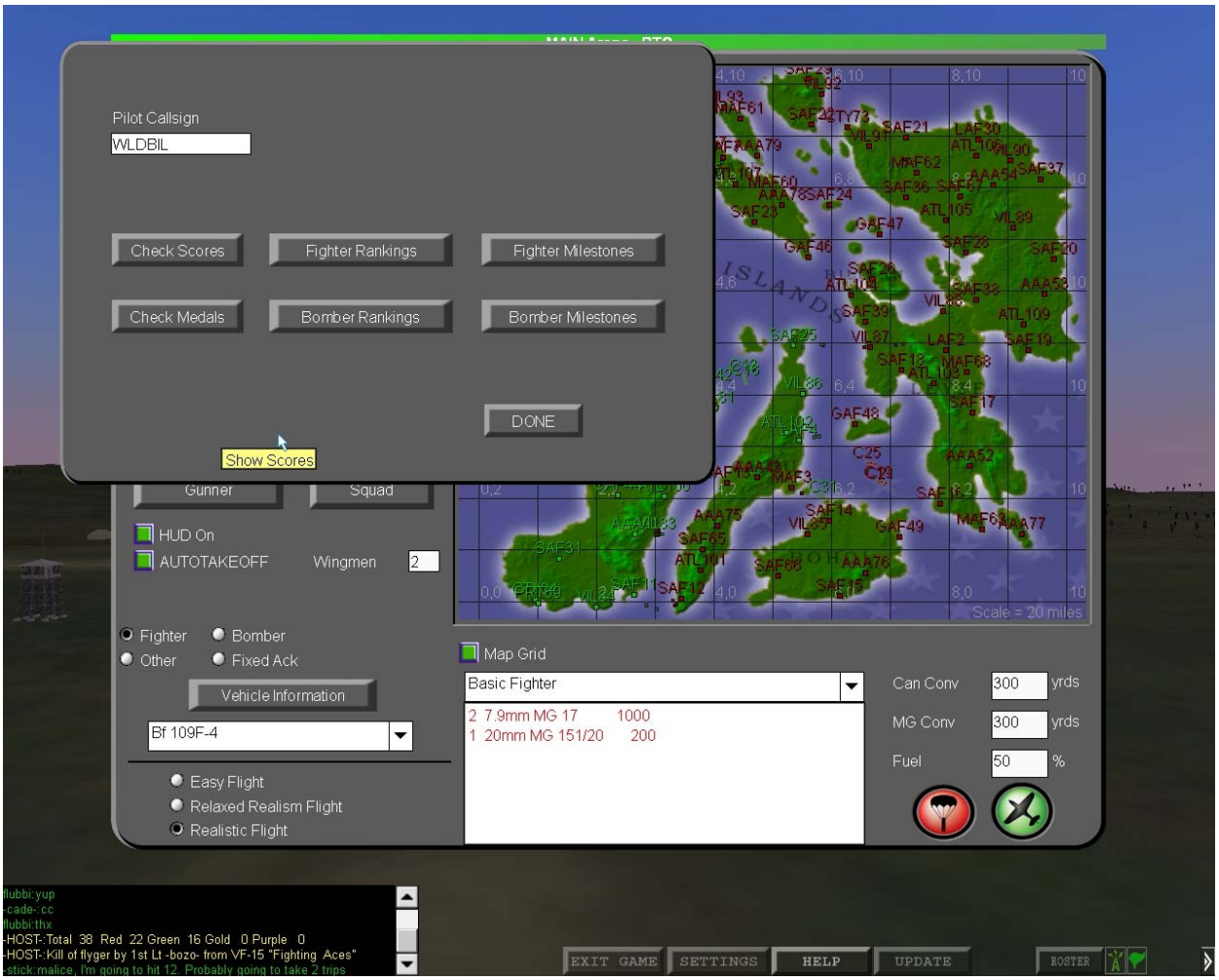
To join a Squad, you need to find someone in that Squad online or respond on the IENT Forum under Squad Recruitment.

You have to be ingame and on the ground to accept an invitation to a Squadron.

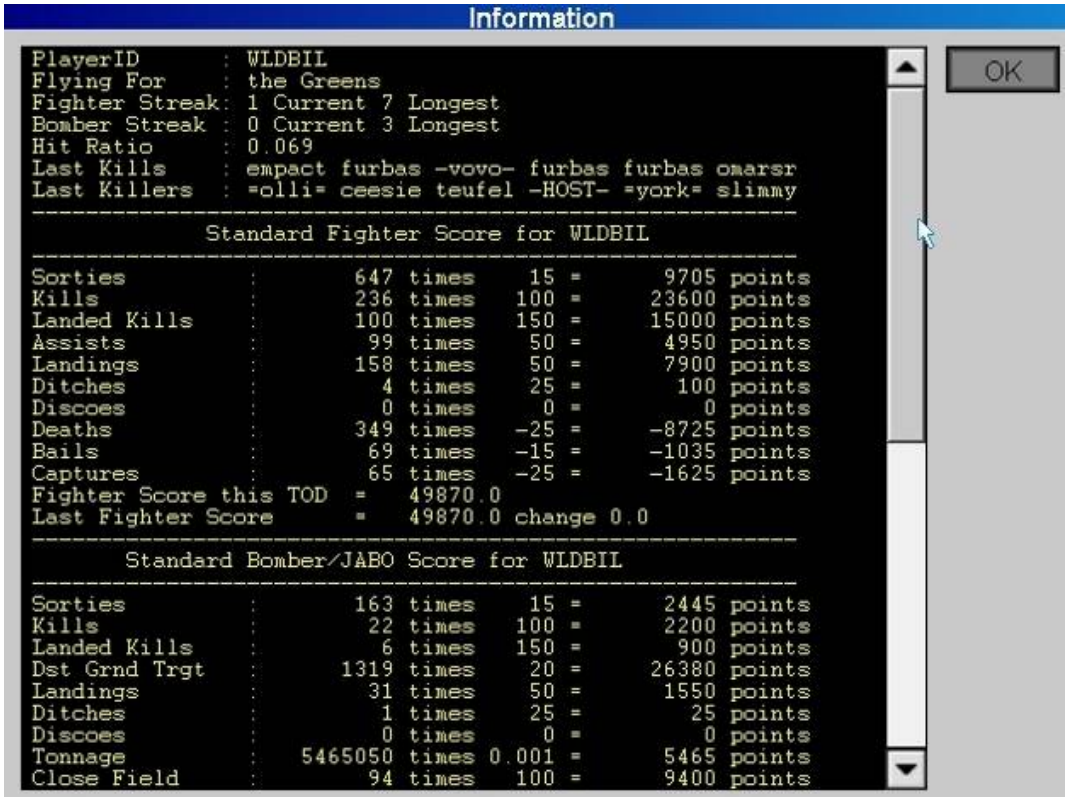
Scoring

Scores are updated daily at 08.00 Eastern Time, and the Welcome Screen lists the top 100 fighter, bomber and squadron scores for each arena when you log into the game online. At the end of a three week Tour of Duty, (TOD), all the scores are reset.

Each arena keeps track of scores for that arena, with the top 10 fighter, bomber and squad stats available from within the arena. Get to the Scores page from the Tower/Map Screen by choosing Check Scores.



Below is an Actual Scoring Screen.



How the Score is Calculated

Please note how the scores are calculated above. Notice that for Kills the player receives 100 points. If you **LAND that Kill** then the points awarded are 150, fifty percent more than a kill. Notice all the points assigned to each item in the graphic above. Notice that some events cause you to lose points like Deaths equal -25 points.

Notice that there are different scores and values for accomplishments for Fighters, Bombers, and Ground Vehicles. The computer decides which mission you are on and puts the score in the proper score sections above. It is good to learn how each event is scored to maximize your score and Arena Rank.

How the Rank is Calculated

Rank is also provided based on the player's cumulative scores. Between each rank, the ranks are far apart in terms of total scores to enable long term play without everyone being a general in the first week. Since this Rank system was begun in 2005, the highest rank you probably will see in the arena is Captain.

Ranks	Points to be Promoted
Cadet	
2nd Lieutenant	1000
1st Lieutenant	50,000
Captain	2,000,000
Major	4,500,000

Lt. Colonel	7,500,000
Colonel	10,000,000
Brigadier General	12,500,000

Between the ranks, the player earns Air Medals as the points accrue. As you earn Air Medals, you get closer to being promoted.
As you enter an online Arena, a game popup shows you your rank, the number of points to the next Air Medal and the next rank.
After a good mission, I often check the Scores page to see how many points I got in that missions. I have had a few missions with over 1200 points. Usually means landing at least 4 kills.

Checking your Score

In an Arena
1 Select the Score selection tab in the left center of the Tower/Main Screen.
2 Enter your callsign into the Pilot/Handle field.
3 Select Check pilot scores from the drop-down menu. The Information window pops up with your statistics.

There are player score pages too here. http://scores.WarBirdsiii.com/ These pages are very good and have lots of data! Thanks to player "-deft-".

Events

Regular scenarios and events are created and run by players, for players.

Squad Select Series (S3) http://www.squadselectseries.com/

This is the oldest and best attended WarBirds Event! Many times we have over 200 players participating in this event.

It is a One Life Event/3 hour Event. If you die, you are out of the Event!

Usually Five Sundays per quarter at 2030 Eastern Time, USA, or 0130 the next morning, Monday, GMT.

The Squad Select Series are player organized events that simulates the large-scale battles fought between opposing Air Forces during the Second World War. Awards and cumulative scoring allow each player to track their career and squad exploits over many events. Events are multi-frame campaigns that promote historical flying and plane match-ups. Sides are not always even nor have comparable aircraft, it is often luck and determined flying that wins the day. If you do not belong to a Squad or your own Squad is not registered to fly in S3s, there are usually plenty of other squads that will adopt players for an event.

European Micro Campaigns (EMC)

Sundays 2000 GMT. The EMC ties together a string of loosely scripted scenarios into a campaign, or miniature war, and is aimed at providing weekly meta historical missions at Euro-friendly times.

The format is sufficiently regulated to ensure enemy contact (read: fun) and sufficiently loose to allow for surprise and stratagems. Apart from the reduced icon settings posing a slight challenge, the EMC format gives rookie pilots a chance to do battle under less chaotic circumstances than in the Main Arena. Because enemy plane types are usually limited and known in advance, the pilot can fight to the best of his own aircraft's capability—without having to worry about all and sundry barreling in from any direction. However, the likely-hood of intense action and devastating surprise is as high, if not higher, in the EMC. Also, since sorties are generally made in strength, pilots seldom have to face the enemy alone. At least until the shooting starts!

The EMC endeavor to emulate air combat history, not necessarily recreate specific actions. While certain missions might be stipulated in the write-up, it is up to the participants to immerse themselves in the mindset of a particular campaign.

Target for Tonight (Intermittent Event Series)

Thursdays 2100 to midnight EST/EDT “Target for Tonight” is an ongoing Historical Arena event which simulates a long-term historical battle. It is open to everyone with a War-Birds account. You do not have to register, you do not have to be in a squad, you do not have to be on time. You can show up when you want, fly or drive whatever vehicle you want, for whichever side you want, and perform any mission that appeals to you. The Historical Arena provides the setting and some goals—the rest is up to you. Sometime prior to each event, a list of tactical or strategic goals for the event will be issued by the CM staff of the Historical Arena, consistent with the terrain and timeline then being simulated. For events, which are continued from the previous week, the tactical and strategic goals will be determined based upon the previous week’s results.

Maps

PDC Maps: Maps for in-game and desktop use.
The WarBirds website has several maps available that can be downloaded and installed in the game to provide additional terrain graphic detail. Additional maps in .pdf format can be printed for desktop reference.
These maps can be found at:
http://www.totalsims.com/fansites.php

Look under Maps.

There are 3 sets of maps under Code’s maps that show all the Airfield Layouts for the Main WarBirds Arenas.

These maps are excellent and most experienced players have them downloaded, printed, and at their side when playing.

Customizing WarBirds

WarBirds allows players to use customized Aircraft skins, sounds and gunsights.

The Player Development Corps (PDC) has developed plane skin packs for online use.

They are downloadable from FurBall at
http://www.furball.WarBirdsiii.com/downloads/pdc.html.

Loading Customized Aircraft Skins

The templates for creating your own aircraft skins are available from the xaero's WarBirds site on FurBall at http://furball.WarBirdsiii.com/ xaero/
The site also contains many customized skins to view. You need to have two or three files for each skin:

- wing.tga
- fuse.tga
- extra.tga (when applicable).

1. Create the folder for your customized skin with the following structure: WarBirds\skins\[PLANE ID]\offline\[xxxxxxxx]
2. The WarBirds and skins folder are already present.
3. Create the PLANE ID folder using the list over the page for reference. For the P51-D, this would be p51, for the Bf109-E4, this would be bf109e.
4. Next, create the offline folder, and finally a folder xxxxxxxx with the name of your choice. There can be multiple folders inside the offline folder, and you are able to select any of the skins you have stored them.
5. Copy the wing.tge, fuse.tga and extra.tga (if applicable) files into the xxxxxxxx folder.
6. Launch WarBirds. Select the plane that you want to customize. Open the Radio bar and type .planeskin xxxxxxxx where xxxxxxxxx is the name of the folder you created.
7. Type .planeskin into the Radio bar to return to the default artwork.

For Example:

1 You have two skins for the Bf109E, and you'd like to have both of them available when you fly offline. One was created by HotSeat, the other by YellowHammer.
2 Create **bf109\offline** folders inside the **WarBirds\skins** folder. Then create new **yellow** and **hotseat** folders inside the offline folder. You now have two folders, **WarBirds\skins\bf109e\offline\hotseat** and **WarBirdsskins\bf109e\offline\yellow** ready for the artwork.
3 Copy HotSeat's wing.tga and fuse.tga into the hotseat folder, and YellowHammer's wing.tga, and fuse.tga into the yellow folder.
4 Launch WarBirds, and select the Bf109-E4.
5 Open the Radio bar and type .planeskin yellow. You now have YellowHammer's

scheme on the Bf109-E. Similarly type .planeskin hotseat, to have HotSeat's scheme.

6 To return to the default, type .planeskin.

Plane IDs

109GR6	A36	B17	B24D B24J	B25C	BF109E		BF109F
BF109G	BF109K	BF110G	DEST1	F4F3	F4F4	F4U1	F4U4
F6F5	FM2	FW1904	FW1908	FW190D	HURRI1	HURRI2	JU52
JU87D	JU87G	JU88A	KAGA	KI43	KI84	M16	M3
M5	ME262	MKIV	MKIVD	MKV	P38	P38F	P38L
P40B	P51 P51B	SEAF2	SPIT1	SPIT5		SPIT9	XXX
YAK3	YAK9D	ZERO	ZERO21	ZERO52			

Customizing Gun Sights & Gauges

Some pilots believe that mastering tricky deflection shots gives them an edge in combat, and customizing your gun sight can improve accuracy with this.

It also allows you to add range marks to your sight's horizontal bars. If you set those marks for, say, 200 yards, and you close on an enemy plane until its wingspan fills the distance between those marks on your sight, you know you are about 200 yards away. This is important in some special events, where enemy planes are displayed—for maximum realism—with limited range data on the screen. Some players also use this process to establish torpedo range marks on the outer edge of their screen, and use them as the default-sighting device whenever they plan to fly a mission against enemy ships.

You can specify a custom sight for each type of aircraft you plan to fly, or change the default to what you want, otherwise, the game defaults to the standard cross hair reticule.

The gun sights and gauges in the 3D cockpits may be customized by placing substitute texture files into the skins folders as **gunsite.tga** and/or **gauges.tga**.

For example: To create a custom gunsite for your P38L, place the custom gunsite.tga in the **WarBirds\skins\p38L** directory.

The default gun sight and gauges files are located in iEntertainment Network\WarBirds\textures. Use these files as templates for your personalized versions.

- German gauges—GEGS.tga
- Japanese gauges—JAGS.tga
- Russian gauges—RSGS.tga
- USA gauges—USGS.tga
- All gunsites—GUNSITE.tga

Notes:

- Gunsite.tga should be saved as uncompressed 32-bit RGB with the alpha channel containing the blending information for the corresponding colors in the RGB channels.
- Gauges.tga file should be saved as uncompressed 24-bit RGB using the same layout as the country template (German, Japan, or US/Britain).

Customizing Sounds

All WarBirds sounds are in the WarBirds/Sounds subdirectory as .DLL files. Each plane has its own .DLL file that contains or points to the appropriate sounds for that plane's engine and guns. The other file in the directory is sounds.dll, and it contains the default engine and gun sounds and all the other sounds.

You can replace any of the default sounds by placing a 22k 8 bit mono .wav file in the sounds directory. The .wav file must be named appropriately for it to be read into the game. Here is a list of the sound names for each sound. They must have the .WAV extension.

EXP1	Explosion 1	EXP2	Explosion 2
EXP3	Explosion 3	BOMB	Bomb Release
ROCKET	Rocket Firing	GEAR	Gear Extending/ Retracting
PING	Hit Sound	PING2	Hit Sound 2
PING3	Hit Sound 3	STALL	Stall Horn
DEATH	Player plane explodes	BAIL	Bail out sound
SCREECH	Tire Screech	SCRAPE	Airframe Scraping on Ground
DAMAGE	Player plane has a part damaged	WIND	Wind
BAYOPEN	Bomb Bay doors opening/ closing	TURRENT	Turret sound for gun- ners (programmer spell ing)
FLAK1	Flak explosion	FLAK2	Flak explosion 2
FLAK3	Flak explosion 3	START	Engine start sound(used in intro screen only)
FLAPS	Flaps extending/retracting	GEXCEED	Airframe under high G load and landing gear overspeeding

OVRSPD	Airframe buffeting	INLINE1	Engine sound
INLINE2	Engine sound	INLINE3	Engine sound
RADIAL1	Engine sound	RADIAL2	Engine sound
RADIAL3	Engine sound	JETENG	Engine sound
30CAL1	Gun sound	30CAL2	Gun sound
50CAL1	Gun sound	50CAL2	Gun sound
20MM1	Gun sound	20MM2	Gun sound
30MM	Gun sound	30MM2	Gun sound

For Example: To replace the bomb release sound with a whistling bomb sound. Create or copy a 22k 8 bit mono .wav and place it in the WarBirds\sounds directory and rename it to bomb.wav.

Plane Sounds

To create your own custom sounds for a specific plane, create a subdirectory in your sounds directory with the same name as the plane's .dll file. In that subdirectory, place your .wav files with the following names:

ENGINE.WAV Engine sound

GUN.WAV Primary guns

CANNON.WAV Secondary guns

ORD.WAV Heavy cannon (P39 and B25H)

For Example: To replace the engine sound of the Fw 190A-8. Create a subdirectory in the sounds directly called FW1908 (The appropriate subdirectory name is the .dll name in the sounds directory) and copy the replacement sound files into that directory.

NOTE: Using large sound files may cause a decrease in your computer's performance when running WarBirds.

Customized Config File
You can write your own init.cfg file that will contain setting you want to load automatically when you log into WarBirds and adjust the graphics for improved visual functionality. Here is a list we have tested and like:

.varlevel 8500 .aircraftlod 500 .virtualmode 0
.fontsize 0 texsize 0 .shadows 0
.watermode 0 .watermode 1 .watermode 2 .envmap 1
.bgminrenderrange 9500 .bglodrenderrange 5000 .minrender 5000
.slip 1 .gamma 1.3 .hls 1
.aircraftlod 9000 .clutterdistance 7000 .lodrender 5000
.radio 1 104 .radio 2 110 .radio 3 114 .radio 4 100
.shadows 1 .videopreset 0

Make an **init.cfg** file in wordpad; copy the settings you want in the file, save it in its own folder. If you are running XP, then open up the folder where you saved the file. Go to Folder Options in the tool bar. Open Folder Options. Under View, uncheck "Hide extensions of known folders."
If you don't do this, the folder will be an init.cfg.txt with the extra .txt appended to it and the cfg file will not work. Copy this file into your main WarBirds Folder.
Other Players accomplish the same result by putting all the desired dot commands in the "setup.cfg" file that currently exists in the WarBirds folder on your hard drive. The game loads faster if all the start up files are in one folder.
These players do not make an init.cfg file and no such file is currently available in the WarBirds folder.

My **INIT.CFG** file includes the following.

.slip 1, .gamma 1.3, .hls 1,
.radio 1 104, .radio 2 110, .radio 3 114, .radio 4 100,
.aircraftlod 9000, .clutterdistance 7000, .lodrender 5000, watermode 2,

I also put each of these on a **separate line with no commas** in my INIT.CFG file.

Uncheck **Write Combining** in your Graphics Card to improve performance too! Having this enabled in your computer can **lower FRAME RATE** significantly!
Do this by:

Click on desktop, properties, settings, advanced, troubleshooting. Uncheck the "Enable Write Combining" box that should be a check box 2/3 down left side.

Appendix A: Cockpit Controls

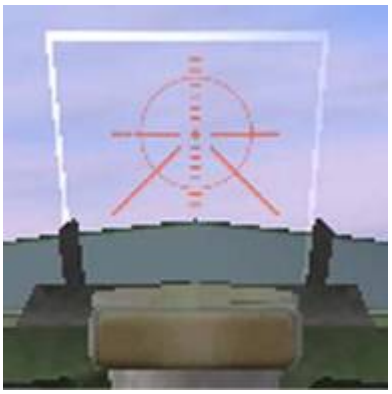
There are several aircraft available in WarBirds, each of which has a unique cockpit layout. The same instruments are present in each cockpit, with a few exceptions.

When trying out a new aircraft for the first time, try performing various maneuvers and observe which instrument changes. For example, you can engage the flaps by pressing **Q** before you even fire up the engines. Finding the gear indicator by pressing **G** while still on the ground is not to be recommended, however, as it generally damages the aircraft when it collapses to the runway. The units used on the altimeter depend on the aircraft. An aircraft of German/Russian manufacture has metric units whereas one of English manufacture has imperial units. . If you go to the Settings splash screen under Miscellaneous Settings, you will find three possibilities, which you can set.

- Per aircraft,

- Metric, and
- SAE.

The setting chosen will apply to all aircraft notwithstanding their origin.



Gun Sight

The color of the gun sight cross hairs indicates your country allegiance. If you use a custom made gunfight this does not hold true any more, the color will not change, it will remain in the setting at time of sight construction.

It is a standard fixed gun sight, without any computing abilities. The center of the sight represents the theoretical line that your gun rounds pass through when your aircraft is under a 1 G load at the convergence range you have selected.

Fuel Gauge

The fuel gauge indicates the percentage of fuel remaining, with F being 100 percent and E being 0 percent. When fuel reaches a critically low level, a red low fuel light illuminates.

The amount of fuel you have at the start of a flight is selected in the Plane screen.

Flaps & Gear Indicator

Flaps: The indicator for the flaps varies considerably between aircraft. It can be a lever, a dial or a ladder gauge.

Gear Indicator: The gear indicator indicates when the gear is down. Flying with the gear down causes a lot of drag and is detrimental to the maneuverability of the aircraft.

Altimeter

The altimeter displays the altitude above mean sea level (not the height above the ground). The small hand indicates thousands of units, the long hand hundreds of units, the red mark tens of thousands of units.

Accelerometer

The accelerometer measures the G-Force on the plane. In normal straight and level flight 1 G is the normal force of gravity. When doing a 5 G turn the plane and pilot experience 5 times the force of gravity—a 200 lb man would seem to weigh 1000 lbs.

NOTE: Most WWII aircraft were not fitted the G-meters. They are included here to compensate for the lack of physical feedback.

Vertical Speed Indicator
The vertical speed indicator displays the current rate of climb or descent. The units are either in thousands of feet per minute or in kilometers per minute, depending on the aircraft.

Artificial Horizon & Slip Indicator
Artificial Horizon: The artificial horizon is an instrument used to determine aircraft attitude, particularly in low visibility conditions. The moving line indicates the horizon, and the fixed line represents the aircraft.

The tick marks along the top indicate the bank angle. Each represents 30 degrees of bank.

Slip Indicator: The slot and ball at the bottom is the slip indicator. This shows whether the craft is in coordinated flight or not. When an aircraft is coordinated, the nose is aligned with the aircraft flight path. When the ball is outside the turn (on the opposite side from the direction of the turn), the aircraft is said to be in a skid. When the ball is inside the turn, the plane is said to be in a slip. In either case, the plane may be brought into coordinated flight by "stepping on the ball," that is applying rudder in the direction of the ball until it is centered again. In general, an aircraft turns most efficiently when it is in coordinated flight, but there are tactical reasons why a pilot may want to fly uncoordinated.

Compass
This is a tape style of compass. The cardinal directions are indicated with the appropriate letter. The large tick marks indicate tens of degrees and the small ones five degrees. Every 30 degrees is indicated by a number (3 is 30 degrees, 6 is 60 degrees, and so on).

Indicator Lights
There are three indicators present on every air craft.

Auto: When the autopilot is engaged this light is lit.

Brake: The wheel brakes are engaged to slow down the aircraft after landing, and are activated by holding down the **Spacebar**. When lit the brakes are engaged.

Bomb Bay Light: Aircraft with a bomb bay usually have a light in the cockpit to indicate the position of the doors. Green is doors open, red or unlit is doors closed.

Ordnance & Gun Counter
The ordnance counter indicates the ammunition for the secondary weapons on the aircraft. Press **Backspace** to change the selected weapon. For machine guns and cannons smaller than 37 mm, the counter indicates the percentage of rounds remaining.

The gun counter displays the number of bursts available for the primary guns only. When an aircraft has automatic gunners ("Otto"), each position displays its own gun counter.

Air Speed Indicator
The airspeed indicator displays the aircraft's indicated airspeed. The indicated airspeed is not the same as true airspeed, as the indicated airspeed for the same true airspeed reduces with altitude.

Tachometer
The tachometer reflects the power setting of the engines. Idle indicates the engine is at flight idle, and 100 indicates 100 percent of power is selected. Most aircraft can exceed 100 percent power by using War Emergency Power (WEP). The effectiveness of WEP varies from aircraft to aircraft, and between altitudes. Each has a limited supply of WEP and use of WEP tends to overheat the engine. The engine cools more efficiently when overheated if the throttle is set below the yellow line.

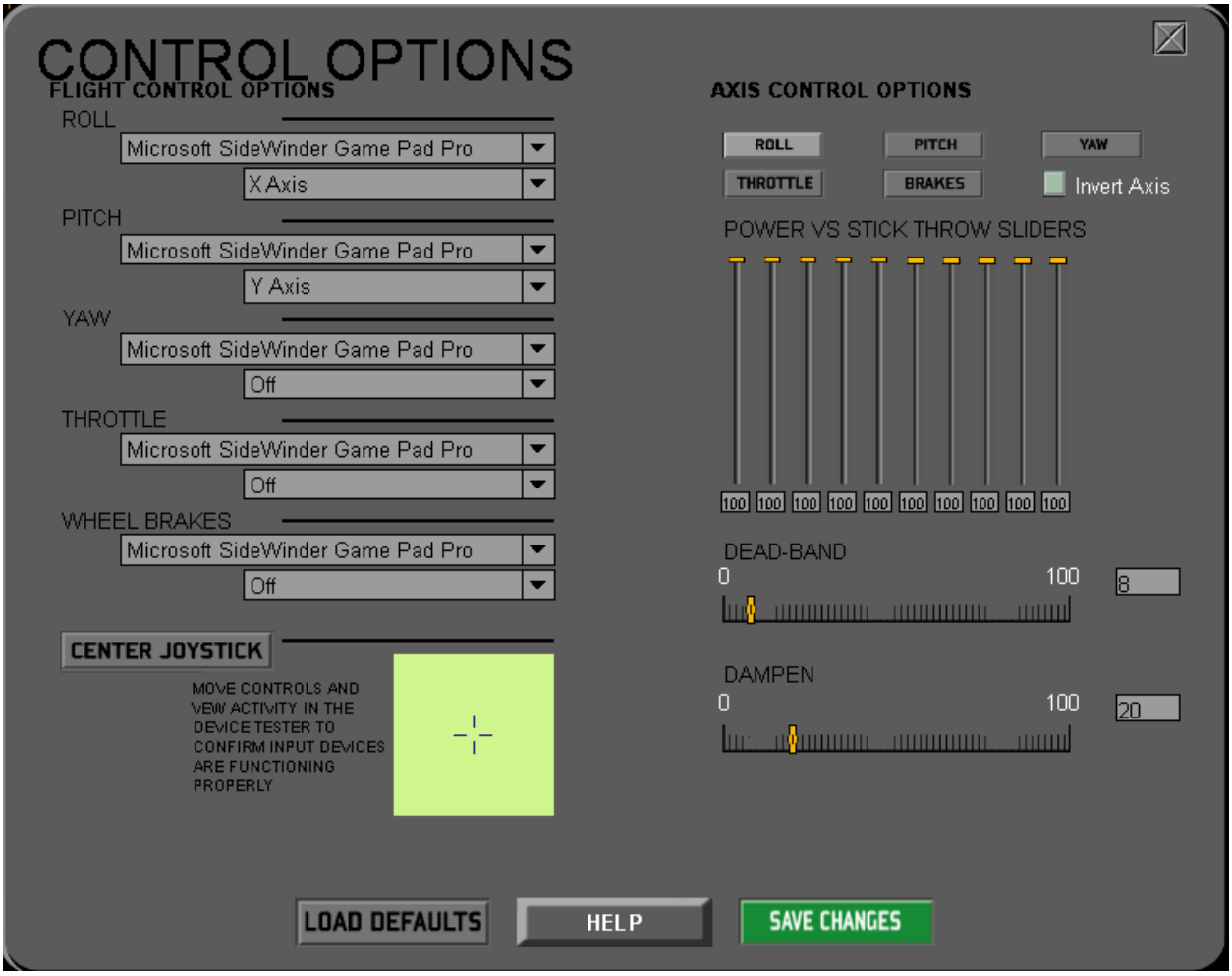
Engine Oil & Temperature Gauges
The oil and temperature gauges indicate how healthy your aircraft's engines are feeling.

Oil Pressure: The oil lubricates and cools the engine. If the engine is damaged by enemy fire, or if you fly in a negative G state for too long, the temperature rises until the engine seizes and stops. If the oil pressure drops due to negative Gs, return to a positive G to restore pressure.

Temperature: When overheated, a red warning lamp illuminates to warn of the dangerous condition. The engine should cool at its most efficient rate when the throttle is set below the yellow line.

Appendix B: Setup Screens

Joystick Settings (See also Setting up your Game Controllers)
To Set up your joystick make sure that your operating system knows you have a joystick. For the PC, go Start/Control Panel/Game Controllers and make sure that your joystick is listed here. Then click on properties there and make sure you get the kind of responses you expect in the screens there. If not, recalibrate your joystick in these screens.
Changing the selections on the Stick screen customizes the response your plane makes to the movements it senses from your joystick.



Controller Selection: The left part of the 'Control Options' screen lets you choose the joystick and movement (x-axis, y-axis, throttle, rudder) that controls a given movement or action (Roll, Pitch, Yaw, Throttle, Brakes).

- Roll**—**Roll is the circular movement of your wing tips around your fuselage, caused by the ailerons.
- Pitch**—**The up or down movement of the nose caused by the elevator.
- Yaw**—**The left and right sideways movement of your nose caused by the rudder.
- Throttle**—**The speed at which the engine revs, which changes the speed of the aircraft.
- Brakes**—**The brakes on the wheels.

Calibrating Controllers: The bottom part of the Stick screen contains sliding scalers. Each of the scalers represents a portion of joystick movement, and the slider settings control the response when the stick is moved that far through its range of travel.

Select an Axis:

- Roll
- Pitch
- Yaw
- Throttle
- Brakes

Then adjust the slider, as preferred. If you have the 50 slider set at 50, moving the joystick half-way from center gives you 50 percent, or a total response of 25 percent because your plane's control surface moves 25 percent of its total movement. By setting the 90 slider to 100, you obtain a full 90 percent response when the stick is moved that far from center. You can enter numerical values for the slider tunings by typing a percentage value in the small field at the bottom of each slider

Center Joystick: Move the joystick around in circles to the extremes of the x and y-axis, and then select Center joystick. Then turn or push the rudder to the full extent, and select Center Joystick. Finally, operate your throttle control.

Dead-band: The Dead-band controls the amount of dead space (no feedback to or from the joystick) when its pitch, roll, and yaw controls are in neutral—when you are exerting no pressure on the stick on any axis. Some sticks are especially sensitive in their neutral positions, and others do not center as precisely as you might wish. Increasing the dead-band along any bothersome axis may correct this.

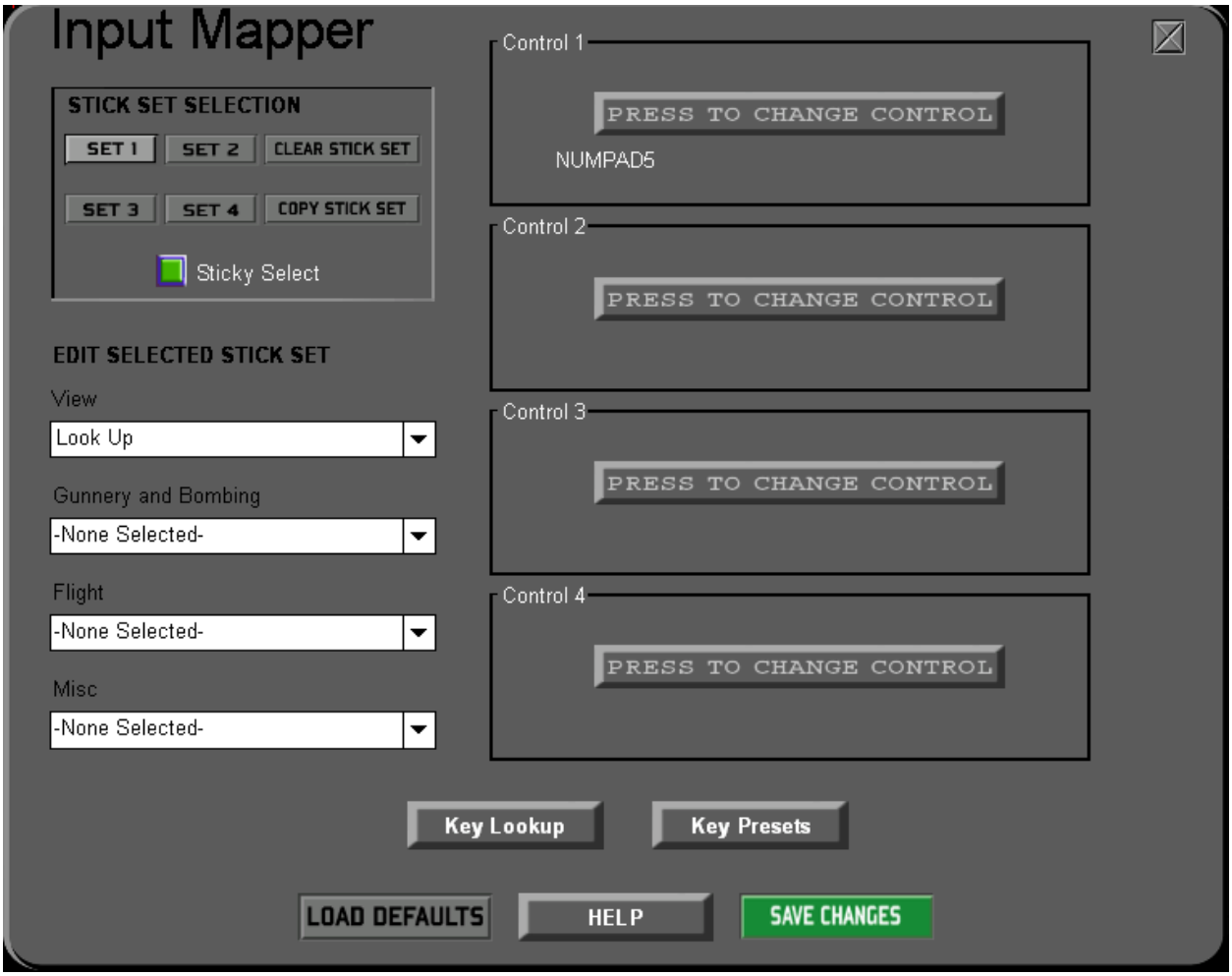
Damper: he Damper setting takes any spikes in the joystick movement and averages them out, giving a smoother ride with joysticks that seem to overreact.

Invert Axis: Click to invert the axis of the joystick.

NOTE: Always remember to press **F12** before taking off to center your joystick according to the settings you have made.

Input Mapper

All good WarBirds pilots customize their joystick and throttle buttons. This is where to do that. It will make flying a lot easier and result in more kills for you.



Available commands that can be chosen from each of the drop down menus above.

VIEW	Bombing & Gunnery	Flight	Misc.
Look Up	Fire Guns	Wheel Brakes	Use Stick Set 1
Look Back	Fire Secondary Weapon	Dive Brakes	Use Stick Set 2
Look Left	Next Secondary Weapon	Toggle Landing Gear	Use Stick Set 3

Look Right	Toggle Pickle Mode	Left Rudder	Use Stick Set 4
Look Forward	Jump to Bombardier	Right Rudder	Microphone Switch

VIEW	**Bombing & Gunnery**	**Flight**	**Misc.**
Look Left/Forward	Toggle Bay Doors	Center Rudder	Toggle Map
Look Right/Forward	Auto Gunners On/Off	Cockpit Window Lean	Increase Map Scale
Look Left Back	Gunner Move to Observer	Auto Trim Level	Decrease Map Scale
Look Right/Back	Jump to Pilot Station	Auto Trim Speed	Screenshot
Look Back/Up	Jump to Top Gun Station	Auto Trim Angle	Toggle Stick Set 1
Look Left/Up	Jump to Right Gun Station	Throttle Up 5%	Toggle Stick Set 2
Look Right/Up	Jump to Top Gun Station	Throttle Down 5%	Toggle Stick Set 3
Look Forward/Up	Jump to Bottom Gun Station	Throttle 100%	Toggle Stick Set 4
Look Left/Forward/ Up	Jump to Tail Gun Station	Zero Throttle	Center Joystick
Look Right/Forward/ Up	Jump to Nose Gun Station	War Emergency Power	Toggle Dive
Look Left/Back/Up	Jump to Left Gun Station	Toggle Engine	FPS Counter
Look Right/Back/Up	Jump to Chase Station	Select Engine 1	Offline Airshow Smoke
External View Toggle	Toggle Auto Gunners on Safe	Select Engine 2	Toggle Mouse Control
External View Zoom In	Display Attach Dialog	Select Engine 3	Key Help
External View Zoom Out		Select Engine 4	Track View
Norden View Zoom In		Select All Engines	Fixed View

Norden View Zoom Out		Raise Flaps 1 Notch	Radio Lines Toggle
Zoom In		Lower Flaps 1 Notch	Open Radio 1 Text Buffer
VIEW	**Bombing & Gunnery**	**Flight**	**Misc.**
Zoom Out		Flaps All Up	Open Radio 2 Text Buffer
Default FOV		Flaps All Down	Open Radio 3 Text Buffer
Toggle Virtual Cockpit View		Eject	Open Radio 4 Text Buffer
Virtual Rotate Left		Eject with 3 Key Strokes	Toggle Message Window
Virtual Rotate Right		Trim Elevator Up	Toggle Icons
Virtual Rotate Up		Trim Elevator Down	Toggle Text Background
Virtual Rotate Down		Trim Rudder Right	Quit
Virtual Snap to Instruments		Trim Rudder Left	Toggle Cockpit
Virtual Snap to Gunsight		Clear Trims	Toggle Slew Mode
		Next Fuel Tank	Toggle Disable HUD
		Gear Shift Up	Toggle Plane View
		Gear Shift Down	Toggle Detail
		Toggle Engine 1	Jump to Next View
		Toggle Engine 2	
		Toggle Engine 3	
		Toggle Engine 4	

Key Look Up: Click Key look Up, and then press a button on the joystick to see what that button has been assigned to for the selected stick set.

Controls: When you select an action from the drop-down menus, you can set up to 4 keys or buttons that will perform that action. You may wish to have one key perform more than one action, such as setting the joystick trigger to fire both your primary and secondary weapons at the same time.

Appendix C: Trouble Shooting

Cleaning up your System
Regular scanning and defragmenting of your hard drive makes sure that your hard drive is in proper working order. Both these functions may take a number of hours, so make sure you have plenty of time available.

Scanning your Hard Drive

Turn off all programs that are running apart from Explorer and Systray (see "Other Programs Running in the Background")

Select Start, then Programs, then Accessories, then System Tools and then ScanDisk.

Select the drive to be scanned, click Thorough, and check the box next to Automatically fix errors.

Click Start.

Defragmenting your Hard Drive

Turn off all programs that are running apart from Explorer and Systray (see "Other Programs Running in the Background")

Select Start, then Programs, then Accessories, then System Tools and then Disk Defragmenter.

Select the drive to be scanned, and then click OK.

Known Problems

Poor Frames per Second (FPS)

Some system configurations might produce only 15 fps that should be exceeding 60 fps.

Reduced frame rates can occur for many different reasons here are the most common:

If you have a VIA chipset on the motherboard, INSTALL THE DRIVERS FOR THE MOTHERBOARD. Look for newer AGP drivers (sometimes part of the 4 in 1 driver set). Without the additional drivers installed you will never get full performance.

Interrupt conflicts can cause a major performance drop. Make sure none of the interrupts overlap. DMA conflicts are also possible. Use Device Manager in Control panel/System to verify there are no conflicts.

Make sure AGP is enabled. GeForce cards will drop to ¼ performance if AGP isn't working. Check the DirectX diagnostics (Start/Run dxdiag) to see if AGP is enabled.

If you have a Radeon or a GeForce, you should be selecting the T&L HAL otherwise all transforms will be done on the CPU. These cards are designed to get better performance when the T&L pipeline is used (less traffic on the AGP bus).

Updated drivers for video cards can be obtained from each manufacturer's website.

- NVIDIA
- ATI

Other Programs Running in the Background

Other programs running in the background can also cause performance or interface problems. Turn off animated cursors, transition effects in display properties (Win2k and XP), and any other large programs currently running, any special anti-virus or system maintenance utilities (such as system restore and system maintenance under Windows ME), any crash protection software, any ICQ or Email programs or web browsers running in the background prior to starting the game.
You can use the End It All program to turn most off. This program is freely available on the internet.

If using Microsoft Plus! software, choose the Windows Standard Desktop Theme prior to starting the game (you can switch back to your preferred theme after exiting the game).
If using Microsoft Intellipoint software, turn off the Pointer Wrap feature for your mouse prior to starting the game.

Macintosh users should make sure virtual memory is turned ON and that at least the recommended amount of memory is allocated to the game. Turn off any extraneous extensions and verify you have the latest draw sprockets and video card drivers.

Stuttering

There are two ways that stutters might occur:

A resource is requested that either hasn't been loaded yet or has been moved to the swap file. In this case there will be a slight pause while it loads.

You are getting a frame rate JUST on the threshold of a factor of the refresh rate so the frame update is "toggling" between two different rates.
Number two above needs some additional explanation. Double buffering means there are only 2 screen surfaces to render into and display on the monitor. For aesthetic reasons, you do not want to render into the surface being scanned out by the card to the monitor so you wait for the screen update to complete after swapping buffers before you erase the contents and draw on it.

This means the "real" frame rate is tied to the refresh rate of the monitor. But it gets worse; if you take JUST longer than the refresh rate to create a new surface, you MISS an update and have to wait for the next one. This causes the apparent frame rate to drop in half. This would be fine, but we're far more sensitive to changes in rate of motion than detecting constant motion so this looks very "wrong" and is noticeable. This is why even a constant 20 fps "feels" better than constantly oscillating between 30 and 60.

For example: 60 Hz refresh rate. This means the ONLY possible frame update rates are: 60/1=60, 60/2=30, 60/3=20, 60/4=15, 60/ 5=12, 60/6=10, 60/7=8.5 Let's say you're getting 60 fps and occasionally it takes a little longer to render a frame and you drop to 59.4 fps. This means the apparent rate toggling between 60 and 30. This looks bad. The solution is to detect it and increase the amount of work done to make sure you

always meet at least 30 but never let it achieve >=60 fps.

The other way around this is to use triple buffering. This relaxes the restriction a little since there are now 3 buffers so as long as you don't get too far behind you can go ahead and start rendering since you now have one surface for the screen update, one with the scene about to be displayed, and a spare surface to start rendering into now without disturbing the screen update. The down side with triple buffering is it uses more VRAM so there is less available for textures which can be a more severe performance drop than continuing with double-buffering instead. Another alternative is to try a different refresh rate, but remember, higher refresh rates mean less bandwidth is available during rendering so it may be SLOWER.

Flickering Water and Coastline

It is a Z-Buffer artifact. At a distance from the camera you lose precision in the depth determination so polygons "fight" over the same pixel, very slight changes in the camera position and orientation cause the choice to switch from frame to frame. We're still looking for a good way to eliminate it, but for now stay away from 16-bit Z-Buffers to minimize it.

Loss of Frame Rate while Flying over Towns

Some 64 Meg 3D cards might take up to a thirty percent frame per second hit when flying low and at an angle on the towns. This generally does not happen with 64 Meg 3D cards.

Textures show up as White on a Macintosh

On a Macintosh some textures show up as white. Whenever OpenGL doesn't have enough memory to load a texture, it comes out as white. Try increasing your virtual memory, and see if the white areas are still there. Then, if they aren't, you can lower the VRAM for performance reasons.

It appears OpenGL is running out of memory to hold its texture cache in system memory. Memory is shared between OpenGL and the application so giving more to the application takes it away from OpenGL. OpenGL renders in white if the texture isn't loaded.

It seems each Macintosh graphics artifact can be traced back to a texture load fail due to memory so only one thing has to be fixed to correct them all, fortunately. We're working on reducing the memory requirements.

Cursor Keys don't change Views Please check your **Accessibility Options** settings in the Control Panel. Under the Mouse tab there is a checkbox for MouseKeys. If this is checked on, all cursor actions are intercepted and used to control the mouse cursor. Please make sure this is OFF.

Loss of USB Joystick Functionality

Game controllers each need their own bus to function properly. If you are connecting multiple USB devices off of a USB hub, you may have one or more of these devices cease functioning during the game. The only known solution to this is to purchase and install a two or four port expansion PCI card.

Appendix D: Customer Service

Online

FAQ
Read the FAQ (frequently asked questions) at http://www.totalsims.com/faq.php

The chances are that you will find the answer to any queries here.

WarBirds Forum http://forum2.totalsims.com/index.php

To ask questions online, or just to make comments, post on the WarBirds Forum and other players will answer you quickly.

- News and Announcements—All the news that is news and some that isn't.
- Support—Having a problem getting Flyboys Squadron or Dawn of Aces to run?
- Armored Assault—Where the aces from the Great War come to meet.
- Dawn of Aces/ Flyboys Squadron —Where the aces from the Great War come to meet.
- WarBirds — Where the aces of World War II come to meet.
- Events—Created by players for players, the Events are one of the most exciting places to fly in Flyboys Squadron.
- Miscellaneous—A place to hang out and chat about nothing in particular.

Tech Support
Before contacting the Technical Support team, read the FAQ (frequently asked questions) at http://www.totalsims.com/faq.php.

The chances are that your question has been asked before, and the answer placed here.

Technical Support is available by filling out the form at:
https://secure.ient.com/am/support_email.php

Or by E-mail at:
wbtech@IENT.com.

Web Site
Visit the WarBirds Web site at http://www.totalsims.com/
This site contains additional information, add-ons and enhancements,

Billing & Account Information

Go to our secure online Account Maintenance pages at https://secure.ient.com/am/ where you can:

- Check your balance
- Change your password
- Change the credit card billed
- Change your payment plan

Or, send email to wbtech@IENT.com with WarBirds Account in the subject line. To cancel your account, you can do it instantly using the Online Account Maintenance site above and on the subscriptions page, select unsubscribe from the drop down menu, or you can email wbtech@IENT.com with Cancel Flyboys Account in the subject line.

Customer Service email is custsvc@ient.com

The Customer Service Email Form, where you can get fastest customer service is here:

https://secure.ient.com/am/support_email.php

Fill out this form with complete information, we can find your account, and we will get back to you ASAP!

Appendix E: Offline Dot Commands

To Enter these commands, the player must open the Radio bar by pressing "/" and then type these commands in that Radio Bar. Press enter and, in most cases, the computer should give the player positive feedback on accomplishing these dot commands.

.offairattack	Sets offline game to air attack (AI planes).
.offfreeflight	sets offline game to free flight
.offbomberambush	sets offline game to bomber mission

Air Attack Mission

.offrps show all	Display all the available AI-controlled aircraft.
.offrps add <model>	Adds <model> to the user-selected list of AI-controlled aircraft. Once the user has created this list, the AI-controlled aircraft are chosen from it.
.offrps show selected	Displays the current user-selected list of AI-controlled aircraft.
.offrps random	Returns to the normal, randomlyselected AI-controlled aircraft.
.offrps nme <x>	Sets number of enemy aircraft where x = 0 to 4. Specifying 0 returns to random numbers of friendly and enemy.

Bomber Ambush Mission

.offbombers <x>	Sets the number of AI-controlled bombers, where x = 1 to 8.
.offbombermodel show	Displays the available AI-controlled bomber models.
.offbombermodel <model>	Specifies the AI-controlled bomber model, instead of a random selection.
.offbombermodel random	Returns to a random selection of AI-controlled bomber models.
.offbombermodel ground	Toggles the selection of ground vehicles instead of aircraft in the mission.

Appendix F: Online Dot Commands

All host commands are preceded by a "." (period). Some host commands can be issued in flight via the radio; others can only be issued when on the ground, in the Control Tower.
If the radio entry bar is not visible at the bottom of the screen, press / once to activate it before issuing a host command.

.aiattach <ai host> <drone #> <pos #>	Attach as a gunner to drone # under the command of ai host in position number # (1 to 7).
.ailist	Gives list of ai hosts and drones which can join as a gunner using the .aiattach command.
.arnaflags	List all the arena flags (settings) for the arena.
.barrage	Order the artillery to fire a barrage at the last spotting round position.
.bglodrenderrange <x>	Sets the level of detail.
.bgminrenderrange <x>	Sets the minimum range in yards at which objects are rendered.
.clear	Resets your score.
.conv <xxx>	Sets gun convergence distance where xxx is 1 to 999.
.correct <xxx> <yyy>	Orders the artillery to adjust their spot firing round by xxx degrees from north, and by yyy yards.
.country <x>	Tune Radio 1 to country x where x is 1 (red), 2 (green), 3 (gold) or 4 (purple).
.cpu	Reports the processor codepath in use.
.date <xx> <yy> <zzzz>	Set the date to month (xx), day (yy) and year (zzzz), where xx is 1 to 12, yy is 1 to 31 and zzzz is 1900 to 2999
.delay <xxx>	Sets the delay in milliseconds between each bomb in the salvo where xxx is 50 to 1000.
.destroyall	Destroy all objects (except the tower) to begin the takeover of a field quickly during testing.
.detroyob <x>	Destroys a single object given the object number x.
.e	Exit plane (must be on ground and stopped when online).

.ez	Enable easy mode.
.field -1	Start flight in the air.
.field <x>	Start at field x where x is the field number.
.fields	Shows a listing of the available fields, their current ownership and status.
.flightstart <x> <y> <alt>	Start flight at designated coordinates and altitude.
.flushplanes	Unloads and forces planeskins to reload (offline, in Tower only).
.fly	To the runway.
.framemode <x>	Enables the graphical representation of the framerate when x is 2, returns to normal when x is 1.
.fuel <xxx>	Sets fuel level for your plane. Replace xxx with percentage of load preferred.
.gamma <x.x>	Adjust the gamma level, where x.x is 0.0 to 2.0.
.grndlabels	Display the ID of ground objects.
.handle <xxxx>	Change your handle to xxxx where xxxx can be up to 20 characters long.
.hl xxxxxx	Player xxxxxx's icon is colored white. This can only be done to Friendlies.
.hls	All members of your squad have their icons colored white, as long as they are flying for the same country.
.hurtme <xxx>	Destroys the selected part (list below).
.ignore	List all ignored players.
.ignore <xxxxxx>	Stop receiving messages from player xxxxxx. Up to 32 players can be ignored this way.
.invulnerable	Make aircraft invulnerable to weapon hits.
.listen all	Start receiving messages from all ignored players.
.listen <xxxxxx>	Start receiving messages from ignored player xxxxxx.
.lodrender	Sets the level of detail.
.masterview	Slave an observer's view to your own.
.minrender <x>	Sets the level of detail.

.offtime	Set the time offline.
.pitchladder <x>	Displays the pitchladder when x is 1, doesn't when x is 0.
.privatearena <password>	Allows the user to enter a private arena, when they enter the correct password.
.radio	Display currently tuned channels.
.radio <x> <yyy>	Tunes Radio x to channel yyy.
.radiolines <x>	The number of radio buffer lines displayed where x is 1 to 64.
.radiowidth <xxx>	Sets the radio width to xxx pixels where x is 220 to screen resolution minus 32. Default is 440.
.rank	Displays the top 100 pilots.
.ros	Shows the roster of players currently online.
.rudderreapeat <x>	Toggles rudder keys repeating on being held down or needing multiple key presses, where x=1 (repeating) or 0 (single strokes).
.runway <x>	Select runway where x is -1 to n. -1 is an air start when offline, and n depends on the number of entry points at a given airfield.
.salvo <xx>	Sets number of bombs to drop with each key press when in "pickle" mode.
.score <xxxxxx>	Shows a player's score. Replace xxxxxx with the player's callsign or leave blank to view your own.
.seastate 0, 1, 2	Changes sea visual for better definition when flying over water.
.setauotlogin <x>	Toggles auto login where x is 0 or 1.
.setsavepass <x>	Toggles saving password where x is 0 or 1.
.shanghai	Steal another player and set them as observer in your cockpit.
.slewfeet <x>	Sets the number of feet to slew per frame (for slew mode—modified by throttle).
.slip <x>	Toggles the slip indicator above the gun sight where x is 0 or 1.
.smoke	Activate the "airshow" smoke.
.speed <xxx>	Sets the autotrim to speed xxx mph
.spot	Orders an artillery round to be fired D2

	ahead of your position.
.terrain <x>	Change the offline terrain to terrain x, where x is the name of the terrain.
.trimrepeat <x>	Toggles trim keys repeating on being held down or needing multiple key presses, where x=1 (repeating) or 0 (single strokes).
.unlimitedammo	No limit to ammo (works with bombs and rockets).
.varlevel <x>	Change the number of polygons rendered for the terrain where x is 250 to 50,000
.wbuffer <x>	Toggles the w buffer where x is 0 or 1

Credits

CEO, iEntertainment Network
J.W. “WLDBIL” Stealey

Producers
Tim “SKYDVR” Metcalfe
Chris “BULDOG” Wall

Senior Programmer
Dan “SPINDZ” Hammer

Game Designer
Matt “TARGET” Davis

Community Manager / Technical Support
Tim “SKYDVR” Metcalfe

Special Thanks To
Chris “SQUEEZ” Cottrell

Art
Matt “TARGET” Davis
Marco “CAVMAN” Garcia
Michael “HAVOC” Tyson

Aditional Art
Marc “e-b-o-“ Schweinoch
Lee “=york=” Racca, Jr.

Sound Effects
Stefan “roboto” Strandberg

Website Administrator
Carolyn “KITTY” Wall

Additional Contributors
Frank “randn+” Baldwin
Clint “+wbit+” Barrels
Braden “gspinz” Blennerhassett
Roger “xaero” Carley
Jeffrey “shack+” Craig
Flemming “wipser” Deleuran
Robert “dadman” Diepenbrock

Don “=vslp=” Drake
Troy “phenix” Errthum
Dale “col+++” Falk
Matt “m-fine” Fine
Darron “=helx=” Forehand
Rick “rifle+” Fortier
William “+wild+” Garvin
Hans “=geff=” Geffen
Grant “iddons” Iddon
Blake “vert++” Jordan
Joe “Frantish” Kudnra
Craig “samart” Linn
Rob “speijk” Loef
Patrick “=dwgr=” Miceli
John “vonmc=” MacLellan
Dean “-kiwi-“ Mahoney
Tony “razer” Martin
John “muzz—“ Meurling
Andy “anmatr” Nelson
Timo “kossu-“ Niiranen
Laurie “=webs=” Nyveen
Marc “e-b-o-“ Schweinoch
Tom “=fli-=” Richardi
Arlin “+evil+” Robb
Rich “=weis=” Roberts
Steve “scobe+” Runnels
Jeff “kellr+” Stahl
John “cutman” Steele
Scott “=dobs=” Stevenson
Jomo “silo—“ Stewart
Rock “-tosr-“ Smith
Steve “crtch=” Thompson
Brad “=fear=” Woods
Steve “daddy=” Zafaris
Patrick “=dwgr=” Miceli

WarBirds Squad Select Series
Jeff “-jabo-“ Barlow
Pete “-roan-“ Robb

Special thanks to
Kent “ICEMAN” East
Chris “BROKEN” Gardner
Brent “MACDDY” Dougherty
Michael “HAVOC” Tyson
Rob “ARCWNG” Heidel

John “FIEND” Dupree
Adam “FLATCH” Lau
Janina “G-WHIZ” DeMasi
Sara “SLIDER” Ley
David “E” Brooks, Jr.
Jen “WEBWLF” Russell
Sandy “DEE” Said
Jason “SHAKES” Booth
Michael “MNORTH” North
Karl “gerzzz” Gansel
Jason “aircav” Chatwin
Thorsten “-lem—“ Peters
Dan “-HS—“ Neault
Jay “DIVINE” Littman

Graphics Engine by
Winter Wolf Software, LLC

Editing:

Col. (Ret.) John “Bombr-“ Frisby
Lt. Col. (Ret.) JW Wild Bill “WLDBIL” Stealey, CEO IENT
Lt.Col. Horst Wizkid Weidemann German Air Force (Ret.)
Mark “v-i-c-“ Hessburg, “Mac Attack -kill different”
Chris “BULDOG“ Wall